THE MODEL CRAFTSMAN

NOVEMBER
1946
25 CENTS

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MODEL AIRPLANES

MODEL RACE CARS

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The Ernest Babcocks, Junior and Senior, model plane speed champs from Morris Plains, N. J. Here in their home workshop, tinkering with their stubby Class C model "Jughaid" (Yep, made with an X-acto!) which in unofficial practice flights has made as much as 130 mph.

MEET THE CHAMPS...THE BABCOCK TEAM

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When thirteen-year-old Ernest Babcock asked his Dad for a model plane kit four Christmases ago, he got an X-acto Knife Chest, too. But, neither father nor son dreamed, then, that they'd become the nationally famous model plane team they are today.

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So when the Babcocks say, "We've used X-acto Knives since we first began building models, and find them *the handiest tools to have in a model shop*" ... there's a tip for *you,* brother!

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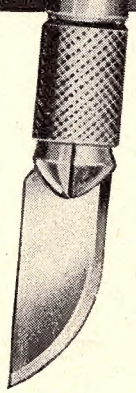
X-acto is tops, as well, for whittlers, paper sculptors, or any other hobbycrafter, be he amateur or expert. With 13 scalpel-sharp blades and 3 safety-grip handles (*all-metal, no more substitute plastics!*) you'll do a slicker job, and *quicker,* when you use super-sharp X-acto.



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X-acto No. 2 Solid Duraluminum Knife . . . **50c**
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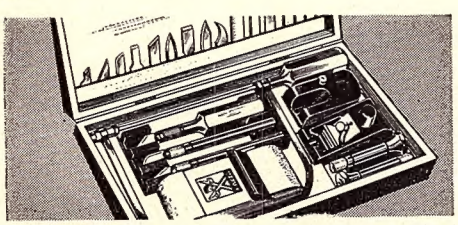

Hobbycrafter's Dream Gift. No. 85 X-acto Tool Chest—3 all-metal knives; full assortment of blades; saw; sander; stripper; planer; drills and holders; steel ruler; complete in wooden chests, $12.50.

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SAYS, *"WE'RE COOKING"!*

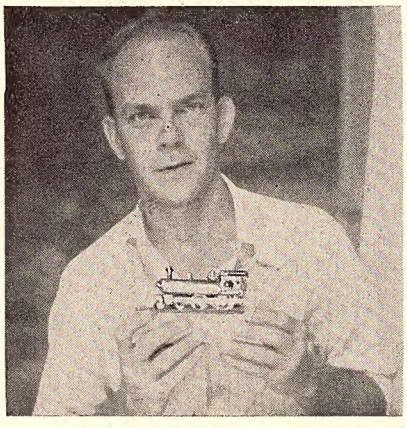
You weren't kidding when you told us your mag was being streamlined—now you're really cooking! Keep up the good stuff in your railroad section. Those articles recently written by Crater, Nye and Hamilton are just the kind of material we fans have been looking for—chuck full of detail. Keep up the good work! . . . *D. Fogal, Coral Gables, Fla.*

AIRPLANE SECTION *"RIGHT THERE"!*

Being a regular reader of MODEL CRAFTSMAN's Airplane section, I wish to thank you for the interesting articles you have been publishing—particularly for the more advanced stages of this hobby.

The article "Your Engines" is indeed most timely. I feel it is something which covers one of the most thought-of questions we readers have needed for some time.

I own some six various sized engines . . . and the thing I cannot figure out is why some engine manufacturers absolutely ignore correspondence from their customers. Then again, some will go out of their way to stand back of their product, . . . is to be congratulated in this respect. . . . *S. N. Bernard, Aurora, Ill.*



IT'S LOVE, FELLAS!

We know that all hobbyists go off the deep end at times, (at least the wife says so) but this letter takes the cake! This fan *really* is in love with his hobby, but let's read his own words: "The guy who sends this photo is so nuts about locos, that he is proud to announce that he has in mind to sacrifice himself in benefit of locos, and to prove it, he has the good intention to wait until the tiny girlie which he so fatherly holds in his hands (yep—it's Mantua's Bell of the 80's) is a grown-up lady, to whom he may lawfully be married. . . . *C. Rost, Puerto Rico*"

THE MODEL CRAFTSMAN

Including "THE MODELMAKER" and MINIATURE RAILROAD Magazine—Established 1924

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NOVEMBER, 1946 **Vol. 15, No. 6**

HE'S ASKING FOR IT!

In your magazine, I have seen letters from fellows trying to organize Model Railroad Clubs, and would appreciate your doing the same for me. I am interested in any gauge and can be reached at home any evening. Thanks for this most helpful service. . . . *Kenneth Chives, 3739 Gertrude St., Verdun, Quebec.*

CONGRATULATIONS!

Congratulations on your fine motor review articles. I have never seen such a complete review before, with one exception. Whether racing motors are designed for hot fuel or not, they should have been tested on a gas & oil fuel *and* on hot fuel. There are several motors which top the performance of the Hornet and McCoy with large propellers, where if they had all been tested with the *same* fuel it would enable one to make a more accurate comparison of performance. . . . *R. Hunsenger, Center Hall, Pa.*

ENGINE SURVEY MOST INTERESTING

I have been interested in your tests of model engines described in MODEL CRAFTSMAN and would like to know the conditions under which you weigh these engines. Is the weight of the spark plug, prop washer and nut, and timer included in the bare engine weight? Is the weight of the gasoline tank included when it is supplied as a unit with the engine? I believe there is a tendency for manufacturers to understate the weights of their engines.

With regard to your tests, I believe the brake HP tests would be most satisfactory, but realize it is difficult to obtain such data because there is no dynamometer for this purpose on the market and the cost of building one is quite high. . . . *Ed. G. Ingram, Associate Editor, Aeronautical Engineering Review.*

(All engines were weighed as a unit, just as you would buy them on the market. If gas tank and spark plug is part of this unit, the weight would be included. —Ed.)

ATTENTION, "E.H.P."

In the February issue of M. C. a Mr. E. H. P. of Michigan showed interest in plans of buses similar to the Greyhound Line. I've been working on a model Greyhound like the ones that are now used on the road and have been made before the war. These buses are known as the washboards to the employees of the Maintenance Department of Greyhound. I began making this model some time ago but had to discontinue it due to the lack of material. Although this model is too large for the average model railroader, one can see the necessary details. It has real floating axles, steering, dual tires, etc.

Since I am employed by Greyhound in New York, I come into daily contact with these buses. We also have in our garage the new Victory type cars for which Mr. E. H. P. asks information. If this is what he wants, I will be glad to measure these buses for him. Just let me know what is wanted and I will do my best to help him. . . . Henry Menegus, Belvidere, New Jersey.

FRONT COVER

Union Pacific Freight Train and 4000 Class Engine westbound in Weber Canyon, Utah. This is the world's largest steam locomotive. Photo through the courtesy of Union Pacific Railroad.

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HERE'S A DOLLAR and CENTS STORY THAT MAKES LOTS OF SENSE . . . The LIFE SPAN of Vitamite means, besides more and better battery life, that for $2.35 you buy the equivalent of $30.00 worth in dry cells . . . think of it, $27.65 saving . . . it's smart buying to buy VITAMITE.

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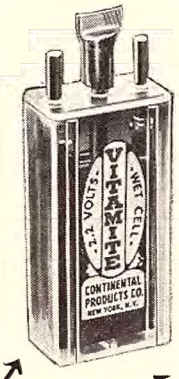

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For Better, Longer, Economical FLYING—BUY VITAMITE

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INCLOSED WITH EACH KIT
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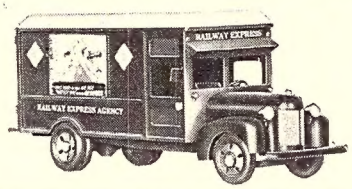
Whenever you get the urge to do something a little different from your usual hobby routine THIS IS IT—make a Continental Carrier. It's detailed, it's beautiful, it's a model masterpiece. You can begin and complete it in one evening—and for years admire it as one of your proud possessions.



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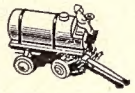

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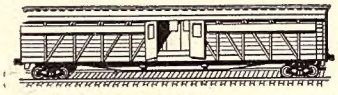

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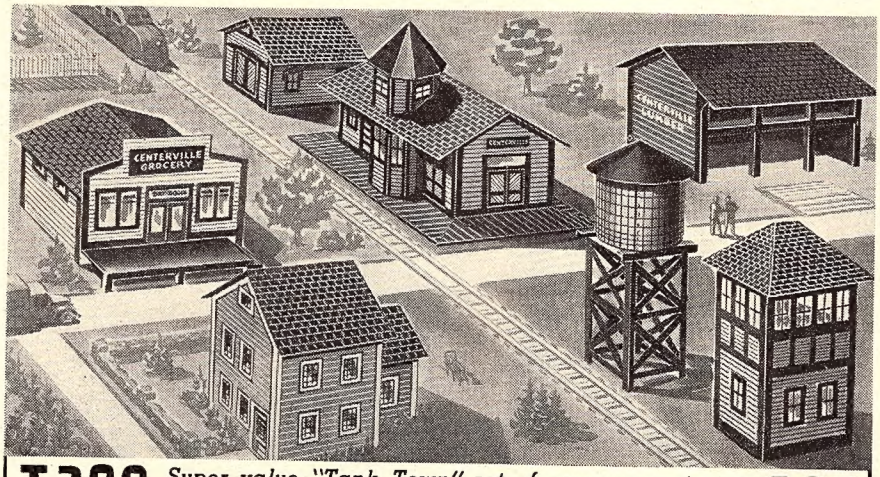

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RAILROAD CLUB NEWS

MONTCLAIR, N. J. It happens to all of us, and the West Essex Model Railroad Club proved no exception, for the axe dropped and the boys had to vacate their old quarters in Caldwell. Leave it to these wide-awake fellows though, for in less than two weeks, new quarters were obtained for the Club. The change was for the better, too! The new club rooms are bigger and better than before, located in a well equipped modern building, well heated and with good lighting. They now have one large room for housing the layout, plus two additional rooms to be used for meetings and locker space. New address of the "Essex Connecting R.R." is at the Edgemont Building, 347-349 Bloomfield Ave., Montclair, N.J.

An extensive membership drive is now under way with promise of very interesting work for prospective members, including design and construction of their new layout. This time, it will be portable —no more being caught with their pants down, comes the axe again. An open invitation is extended to visit their Club Rooms, meetings being held every Tuesday at 7.30 P.M. Write to Ray Van Blargan, 328 South 19th St., Newark 3, N. J., for information.

LANCASTER, PA. Here's a few dates to keep in mind if you want to see the show put on by the Lancaster Model Railroad Club, at 314 N. Christian St. These boys operate the "Penn Eastern" Lines in both HO and O Gauge. Show opens on Friday evening, Nov. 29th; Sat., Nov. 30th; Sunday, Dec. 1st; Friday evening, Dec. 6th; Saturday, Dec. 7th and Sunday, Dec. 8th. Evenings at 7 P.M. and afternoons at 2 P.M.

NEW CASTLE, DEL. It's encouraging to hear of the old-timers who are getting back into the swing of things in bigger and better ways. The Wilmington Model Rwy Club, 105 Stanley Lane, Collins Park, New Castle, is getting its 2,000 feet of track ready for enlargement and subsequent operation. At the reorganization meeting, 22 members elected the following officers: Pres., W. L. Knowles; Vice Chairman, J. R. Hayew; Treas., E. C. Horisk; Sec'y, B. E. Crosby.

WASHINGTON, D. C. A gala Fan Trip over the "Old Main Line" of the B & O Railroad went over in a big way on Sept. 22nd, sponsored by the Metropolitan Society of Model Engineers in Washington, and assisted by the Baltimore Society of Model Engineers and National Railway Historical Society. The B & O used two locos pulling eleven cars to take over 500 fans on a most enlightening trip, from Washington and Baltimore to Brunswick and return. Highlight of the day, was the surprise folder (time table format) which B & O had printed as souvenir programs for all the fans. The folders contained pictures, maps, graphic history and trip resume of the "Old Main Line."

(*Continued on page 59*)

FOR CRAFTSMEN WHO APPRECIATE Quality!

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It is with a genuine sense of accomplishment that Testor brings you this new and truly superior line of Model Railroad Paints! Created for craftsmen who want — and are willing to pay for — the best, these outstanding enamel finishes have no equal on the market today. They're easy to apply by brush or spraying . . . require no primer, and provide complete one-coat coverage . . . dry in two to three hours without brush marks or sags . . . have that "weathered glossy" finish so desirable for authentic appearance. Try these Testor super-quality paints now! 13 colors, thinner, and dull varnish. Your dealer has them in stock . . . or will be getting them as soon as national distribution permits.

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Streamlined Processing

By B. S. LIQUORMAN

AFTER considerable experience with the operation of model airplane contests, both as a contestant and as a contest official, it became quite clear that certain "bottlenecks" must be cleared away if successful model meets are to be conducted in the future.

With this thought in mind, the author set about to reduce one of the major "bottlenecks" which has long been a "thorn in the side" of contest directors, namely, *processing*. The only method to eliminate the long lines at the processing tables, it was reasoned, is to streamline the processing procedure, and the accompanying charts were thus conceived.

These charts were used with great success at the recent Eastern Championships, conducted by the Brooklyn Sky-Scrapers, and also at the Mirror Model Flying Fair, conducted by the New York Daily Mirror. Both contests were held in the Metropolitan Area, and therefore attracted large numbers of contestants, yet processing did not rear up as a "bottleneck" as it had at almost every previous major model meet.

CHART ONE— WING AREA vs. WEIGHT

(Wing Loading Rules require 7 oz. weight for each 100 sq. in. wing area)

AREA (sq. in.)	WT. (oz.)	AREA (sq. in.)	WT. (oz.)
100	7	725	50¾
125	8¾	750	52½
150	10½	775	54¼
175	12¼	800	56
200	14	825	57¾
225	15¾	850	59½
250	17½	875	61¼
275	19¼	900	63
300	21	925	64¾
325	22¾	950	66½
350	24½	975	68¼
375	26¼	1000	70
400	28	1025	71¾
425	29¾	1050	73½
450	31½	1075	75¼
475	33¼	1100	77
500	35	1125	78¾
525	36¾	1150	80½
550	38½	1175	82¼
575	40¼	1200	84
600	42	1225	85¾
625	43¾	1250	87½
650	45½	1275	89¼
675	47¼	1300	91
700	49	1325	92¾

When processing models at these contests, the projected wing area and engine displacement of the model were noted, and by reference to Charts #1 and #2, two values of weight were derived. The larger of these two weights was the minimum model weight required. All that remained was to place the model on the scale.

Still another use for these charts is one which will benefit every model builder when he starts work on a new design. Knowing what engine is to be employed, the minimum weight of the model can be "picked off" the displacement vs. weight chart. Now that the minimum weight is known, the corresponding wing area for that weight may be obtained directly from the wing area vs. weight chart. If the Model Builder uses a wing area which is smaller than that just determined, the minimum weight which he must employ remains the same, however, the wing-loading will increase to the modeler's disadvantage. If, however, he chooses a wing area which is larger than the previously determined wing area, then the minimum weight of the model will be governed by the weight required of the new wing area, and this can be taken directly from the wing area vs. weight chart.

The weight charts were evolved by use of the following equations which were based upon the 1946 AMA rules as regards wing-loading and power-loading for free flight gas models.

Weight req'd (oz.) = 7 X Wing Area / 100

Weight req'd (oz.) = 80 x Engine Disp.

The following is an example of how to determine the required weight of a model. Assume that we have a model with 800 square inches of projected wing area, powered with an engine of 0.60 cubic inch displacement:

Weight req'd (oz.) =
7 X 800 / 100 or 56 ounces
Weight req'd (oz.) =
80 X 0.60 or 48 ounces

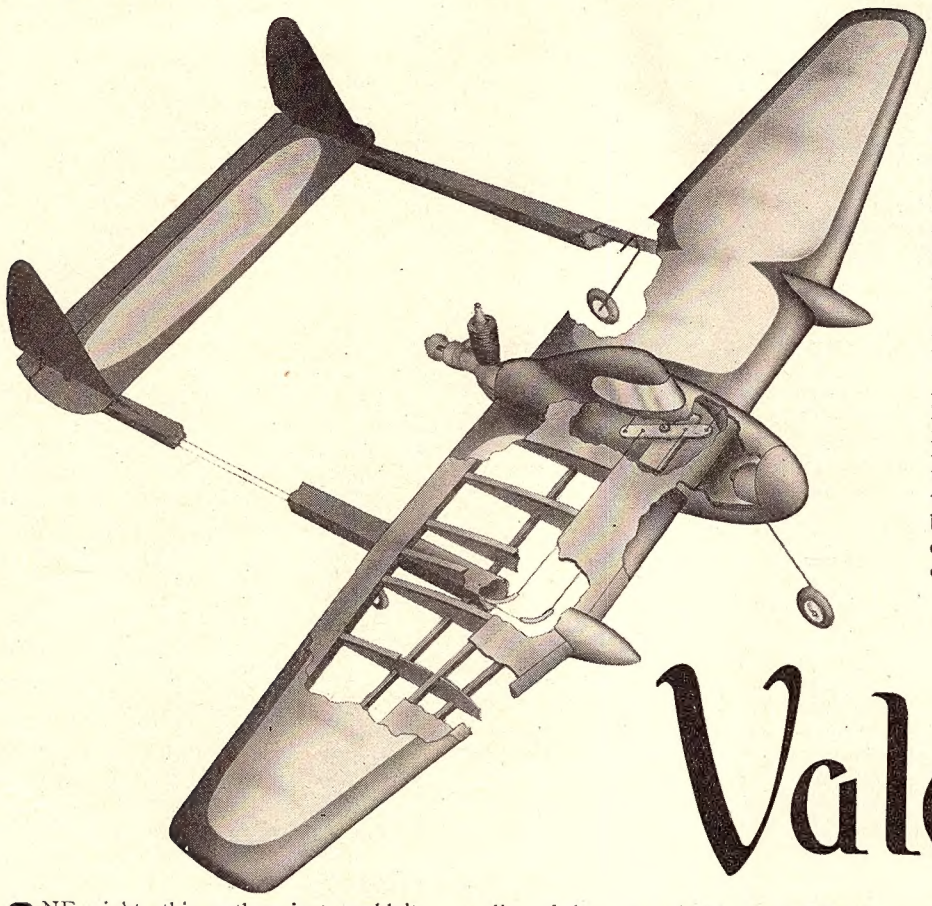
The larger of the above two weights is the minimum weight which shall be required for official AMA sanctioned contests.

So, fellow model builders—use these charts to determine just how much your model should weigh for contest flying, and you needn't spend anxious moments at the next meet trying to find places in your model to stow old nails and worn-out pen cells that will bring your model up to weight rules.

CHART TWO— DISPLACEMENT vs. WEIGHT

(80 oz. weight required for each cubic inch displacement)

	Disp. (cu. in.)	Req'd Wt. (oz.)
CLASS A (0 to .20)		
Arden	.099	7.9
Arden	.199	15.9
New Atom	.097	7.8
Bantam	.199	15.9
Elf Single	.099	7.9
Elf Twin	.199	15.9
Madewell	.140	11.2
Marvin	.140	11.2
Megow	.199	15.9
Ohlsson "19"	.197	15.8
Perky	.191	15.3
CLASS B (.201 to .300)		
Brown	.290	23.2
Bullet	.275	22.0
Cannon	.300	24.0
Delong	.300	24.0
Forster "29"	.297	23.8
Hurricane	.245	19.6
Melcraft	.287	22.9
Merlin	.232	18.6
Ohlsson "23"	.232	18.6
Phantom P-30	.300	24.0
Rogers "29"	.292	23.4
Syncro B-30	.292	23.4
Torpedo	.299	23.9
CLASS C (.301 to 1.25)		
Atwood Champion	.600	48.0
Barker "C"	.600	48.0
Brown "B" & "D"	.601	48.0
Cannon	.358	28.6
Comet "35"	.350	28.0
Contestor	.600	48.0
Dennymite	.570	45.0
Fleetwind	.600	48.0
Forster "99"	.997	79.8
G.H.Q.	.517	41.5
Gwin Aero	.450	36.0
Hassad	.605	48.4
Hornet	.604	48.3
Hurleman	.460	36.8
Kencraft	.604	48.3
Madewell "49"	.490	39.2
McCoy	.604	48.3
Aero Midget	.450	36.0
Molnar	.785	62.8
Ohlsson "60"	.600	48.0
O.K. "49"	.493	39.4
O.K. Super "60"	.604	48.3
O.K. Twin	1.208	96.6
Pacemaker	.594	47.4
Rocket	.460	36.8
Sky Chief	.526	42.1
Super Cyclone	.647	51.8
Tiger Aero	.450	36.0
Vivell	.350	28.0
Wensen	.362	28.9



Valorette

By R. W. MAHONEY

ONE night, this author just couldn't sleep—a sport controliner was on my mind! It had to have clean streamlining, look realistic and slightly different from the conventional. Tired of breaking props too, no design seemed to fill the bill. But then an idea struck me—a pusher would save props! A twin boom pusher could be a snappy little flyer, be realistic and still different from most controliners! And the answer to all this dreaming was my original "Valorette" powered with an Atom. Later, when the Arden came out, the ship was redesigned to accommodate it as presented here. Its record to date is over 100 flights—not one broken prop or bad crack-up! So fellas, if you want such a model, clean up your workbench and let the chips fly!

Scale up the plans for the wing, the pod and tail surfaces. Trace the pod bulkheads on a 3" wide strip of tissue or tracing paper, and using thin dope, the strip is doped on to a piece of ⅛" x 3" balsa sheet. Cut out the formers and then strip off the paper. Form the front landing gear, then cut former A and E from thin plywood. Hold the landing gear in position on former A and trace its outline on the plywood. Drill 1/16" holes along the outline and mount the wire by "sewing" it on with thin wire or linen thread. Pin two strips of 3/16" square balsa to the outline of the pod and glue the bulkheads in position. Plank the bottom half of the pod with ⅛" x ½" balsa.

Lightly glue the top half of the pod formers in position and plank the top between formers A and E. After the entire pod is set, sand it until completely smooth, and then remove top half by cutting apart with a sharp knife.

The boom tops, sides and bottoms are cut from 3/32" sheet. The front bottom portions are left off until controls are installed. The two rear landing gears are mounted on square pieces of plywood that fit where the front bottom piece joins the rear bottom piece. The landing gears are fastened to the plywood in similar manner as the front gear. The outside gear mount must have a hole in it for the control lines.

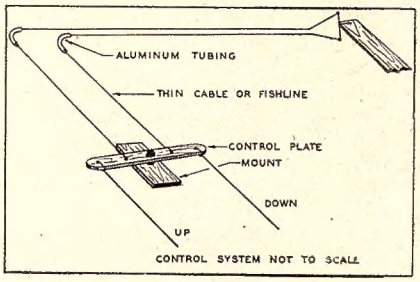
The wing is constructed in conventional manner by laying the leading and trailing edges on the plan and then gluing in the ribs. Make breaks at the dihedral points, then add the spars, splicing them for strength. Plank the leading edge and center sections with 1/16" sheet, and add cap strips of 1/16" x ¼" to the tops of the ribs. When dry, the wing is sanded and covered with silk or silk span, and trimmed.

Cut the rudder and stabilizer from sheet and glue them on the booms. Glue the booms to the wing. Hinge the elevator with silk, and "sew" the elevator horn to the elevator directly behind the outside boom.

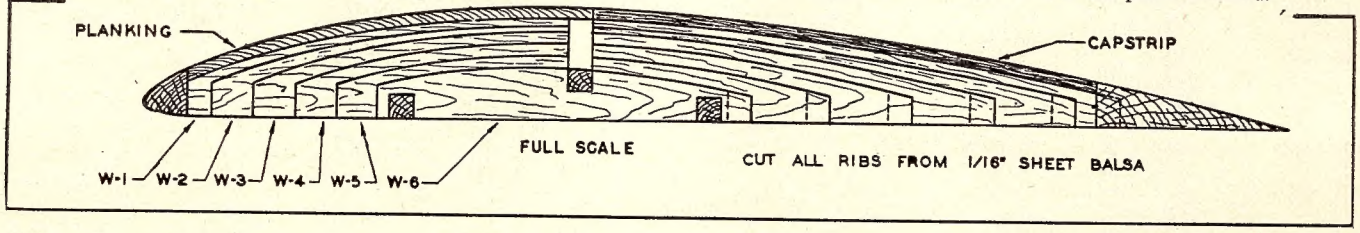
Mount the control relay on a piece of plywood and glue it into the bottom shell of the pod. Wire the ship according to diagram, keeping in mind that the weight should be as far forward as possible. Drill holes for engine bulkhead E and glue nuts on the back. Drill holes in the sides of the pod where the lines pass through and insert eyelets. Fasten stranded wire leads for the control lines, and flexible but not elastic, linen cord from the control to the relay. Lead the cords and wires out through the eyelets.

Glue the lower half of the pod to the bottom of the wing, then trim the top half of the pod so that the wing fits snug. Drill holes in the booms for the lines on the right side and for the control cords on the left. Insert eyelets for the lines and bent aluminum tube cord guides for the control cords. Secure the cords to the elevator horn so there will be ¼" full *up* and 3/16" full *down*. After all the controls are set, the bottoms of the booms may be added and both boom noses shaped and secured.

The top of the Valorette may be kept in place by friction if it is a tight fit. You may mount it securely by gluing a nut to a piece of plywood and mounting it on the wing just ahead of the cabin. Drill a hole for a bolt in the upper shell just above the nut. By screwing a bolt into this nut, the cabin will be held securely.



The Valorette should not weigh more than 14 ounces when ready to fly, balancing at the center of the horn. Add weight to the nose if it is necessary to move the balance point forward.



THE VALORETTE

ELEVATOR HORN
.045" PIANO WIRE

CABIN FORMED FROM
BALSA BLOCK

FULL SCALE

ELEVATOR HORN

3/32" SH.

BOOMS ARE
CUT FROM
3/32" SHEET

BATTERIES

COIL

IGNITION
CIRCUIT

CON.

STABILIZER 3/32" SHEET

CONTROL
PLATE
1/8" PLYWOOD

REAR
GEAR
1/16"WIRE

NOSE GEAR
3/32" WIRE

CONTROL PLATE MOUNT
1/8" PLYWOOD

SEC. C

SEC. A
1/8" PLYWOOD

1/8" PLYWOOD

SEC. E

SEC. D

SEC. B

CUT OUT IN
SEC. C ONLY

1 1/2" WHEELS

8" PROP

CLASS "A"
ENGINE

1/16"X 1/4" CAPSTRIPS

1" TRAILING EDGE

DOWN

UP

BALSA
BLOCK

1/8" FORMERS

E

D

C

B

A

COIL

SWITCH

W-1

W-2

W-3

W-4

W-5

W-6

LEADING EDGE 1/4" SQ.

1/16" SHEET

1/8" SQ. SPARS

COIL
BATTERIES

CRUTCH
3/16" SQ. BALSA

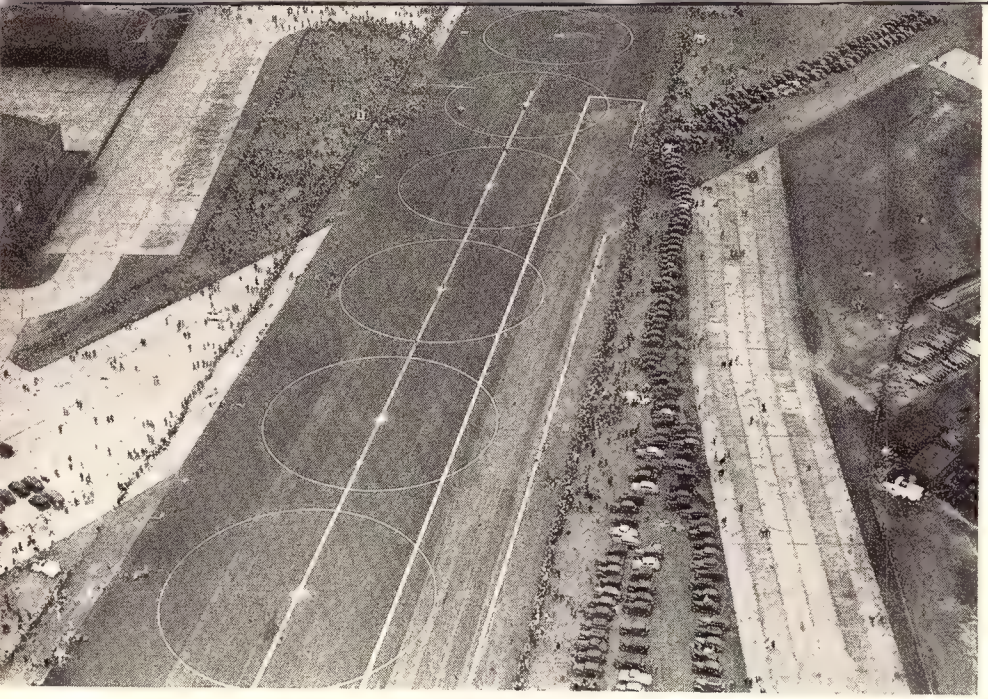
1/16" PLYWOOD GUSSETS

BALSA
BLOCK

1/4 SCALE
CLASS "A"
AREA 160 SQ."
WGT. 14 OZ.

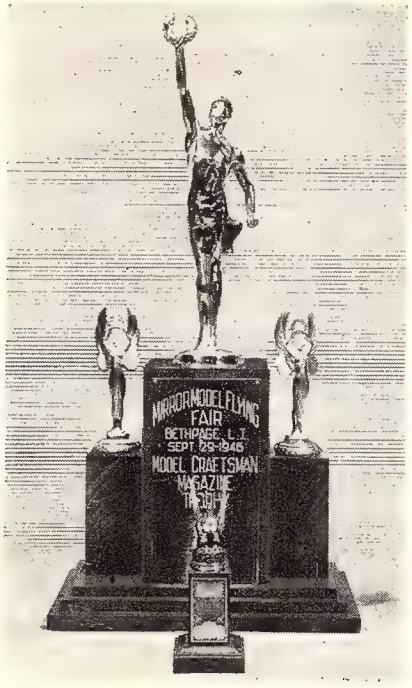
HINGES
1/32" ALUMINUM

FULL SIZE



directed by your editor who was ably assisted by Bernard Schoenfeld in the Free Flight area and Tom Herbert in the Control Line area. Recording and tabulation was carried out by Tex Forster and members of the ZZ-Flyers Club. These elaborate tabulation charts were spread out over 75 feet of table!

Half of the 5400 foot runway was taken over for the Control Line Flying. Fourteen circles of 140 foot diameter each were painted on the runways with 50 feet distance between circles. Four circles were used for Class C speed, four for Class B, three for Class A, one for Scale and Jet, and two for stunt flying. This is the first time on record that fourteen circles were ever used for an all-around contest! The Free Flight area was at the other end of the field. Because of the dead calm during the day, (two mph wind was the highest recorded) flights of between 12 and 18 minutes permitted models to land nearby. The weather was just about



Here is the trophy awarded by Model Craftsman Magazine for the Highest Single Flight Time of the contest.

MIRROR MODEL

Over 150,000 spectators witnessed this gigantic Air Meet!

AFTER several months of elaborate preparation, the First Annual Mirror Model Flying Fair was successfully held on September 29th, at the airfield of the Grumman Aircraft Engineering Corp., of Bethpage, Long Island, approximately 30 miles from New York City. So many celebrities in the model world were present, that it was impossible for one to meet all of them. Contestants came from near and far, from Texas up to Canada. Preparations were made to accomodate over 1500 contestants although only 750 were expected. Actually, there turned out to be over 1750 contestants who wanted to compete in one or more events. Some 200 of these could not be entered in the meet! The entire contest was sponsored by the New York Daily Mirror newspaper and the oddest yet seen at a contest on the east coast. The sky was solid overcast of between 1000 and 3000 feet during the day, with not a bit of sun shining through. Despite this, many flights were timed at ten minutes and better, the highest being 18 minutes. A new national record (unofficial as yet) was set that day in Senior Class B Free Flight. Stanley Sultan of Brooklyn, N. Y., amassed a total of 34 minutes and 20 seconds to set this record with an original design model.

Control line events saw the greatest action during the day with models flying in all fourteen circles! Three new national records were established in speed events. Stanley Suminski of Cleveland, Ohio, set a new Class III Open record

Left—A radio control contestant prepares his model for flight. Right—An unusual Jet model that appeared at the meet.

with 92 MPH. Jack Norris, also of Cleveland, set a new mark at 75 MPH in Class II Senior Division. The Babcock team established a new record also in Class II Open Division with 75 MPH. Each of these contestants received a new Benrus Chronograph Wrist Watch besides regular prizes.

The Scale Control Line event attracted approximately fifty contestants, a great surprise to all as this turnout proves that a definite trend is towards control line scale flying models here in the East. This event was judged under AMA rules for flying scale models and additional points were awarded for precision flying and novelties. Harold DeBolt flew a neat little Folkerts Special Racer in this event and put on a good show for the crowd. Babcock flew an Ohlsson "60" powered Capitol Beechcraft Biplane from a sitting position and nearly demolished the model in recovery from a loop, a few scant inches from the runway.

Daily Mirror Photos

Some of the Sky-Devils Club preparing their models for flight.

FLYING FAIR

An elaborate flying exhibition was put on in the stunt circle with two models having a dog fight. Each model had a streamer dragging behind with each job trying to cut it from the other model. The crowd was kept in suspense during the entire flight, since the models came within inches of a mid-air collision on many occasions.

Due to the tremendous promotional campaign of the Daily Mirror, an estimated 150,000 spectators turned out. Four miles of snow fence and 3,000 feet of rope were used to control the crowds. More than 100 Civil Air Patrol men were present to handle the spectators. Featured along with the meet, was a large Air Show put on by the Navy, with a low flying blimp and Ryan Fireball as the main attraction. Major Al Williams gave a typical "Williams" exhibition in his Grumman Gulfhawk plane. The crowds were also interested in the ground display of the Army, Navy and Grumman Aircraft Corp. As an added attraction, actors impersonating the comic strip characters of L'il Abner, Mickey Finn, Joe Palooka, walked among the crowd to amuse the children.

Due to the tremendous success of the show, the Mirror wrote an editorial on the event the following day, and announced its intentions of running another meet next year which will even exceed this one! Major winners in all events follow:

CLASS A SPEED

NAME	TIME	SPEED
1. Jack Norris	12 sec.	75 MPH
2. E. Babcock, Sr. & Jr.	12 sec.	75 MPH
3. Bernard Collins	13.4 sec.	68 MPH

CLASS B SPEED

1. Stanley Suminski	9.8 sec.	92 MPH
2. Bill Gertock	10 sec.	90 MPH
3. George Suginchi	10.2 sec.	88 MPH

CLASS C SPEED

1. E. Babcock, Sr. & Jr.	7.9 sec.	112½ MPH
2. Stanley Sieminski	8.0 sec.	111½ MPH
3. William Seidler	8.0 sec.	111½ MPH

CLASS A FREE FLIGHT

1. Frank Ehling	14 min., 57 sec.
2. Sgt. Henry Goelzen	11 min., 38 sec.
3. Al Pardocchi	11 min., 38 sec.

CLASS B FREE FLIGHT

1. StanleySultan	34 min., 20 sec
2. Frank Antosh	19 min., 32 sec.
3. Richard Sladek	19 min., 03 sec.

CLASS C FREE FLIGHT

1. Thomas Carlo	26 min., 12 sec.
2. Serges Morris	17 min., 30 sec.
3. Aubry Pearson	15 min., 07 sec.

STUNT

1. E. Babcock, Sr. & Jr.	103 points
2. Robert Harlieb, Jr.	84 points
3. Harold DeBolt	80 points

SCALE

1. Harold DeBolt	110 points
2. E. Babcock, Sr. & Jr.	97 points
3. Arthur Hasselbach	93 points

JET EVENT

1. Arthur Hasselbach	38 points
2. John Wardlow	19 points
3. Richard Mahoney	5 points

RADIO CONTROL

1. Joseph Raspante	9 points
2. Harold Edwards	7 points
3. Chester Lanzo	5 points

GRUMMAN EMPLOYEES

1. Joseph Ferns	4 min., 52 sec.
2. Donald Towne	3 min., 50 sec.

HIGHEST SINGLE TIME

1. Thomas Carlo	18 min., 45 sec.

$10,000 in prizes were awarded to the winners, topped off with an Ercoupe Airplane.

Left—Some of the Class C contestants waiting their turn to fly. Right—Ben Fishman, of the Bronx, holds a Tigercat model while another assistant tunes the engine.

One of the Memorial Trophies awarded by the Sky Scrapers Club at their recent contest.

SKY SCRAPERS HOLD SUCCESSFUL MEET

THE Sky Scrapers Model Club of Brooklyn, N. Y., ran their Fourth Annual Model Meet at Hicksville, L. I., on Sept. 15th. Prizes consisting of trophies, motors, kits and accessories valued at $800, were awarded winners up to twelfth place in each event. Events included Free Flight in Class A, B & C and Flying Scale, all clases combined.

This contest held an added significance to the members of this Club in the awarding of three memorial trophies which will be awarded annually to perpetuate the memory of three members who failed to return from the last War. These trophies were awarded to first place winners of Class A, B & C Free Flight events by Jerry Stoloff, President of the Club. The three members whose memory they wish to perpetuate are Gordon (Scotty) Murray, creator of the famous "Topper," Charles Sciara, and Saul Reiter.

The contest was very well handled by Contest Director Pete Tryborn with the able assistance of every club member. A powerful P. A. system kept contestants and spectators informed at all times throughout the day and the job of announcing was well done by Hank Osmer. Partial list of winners follow:

CLASS C FREE FLIGHT

1. John Thompson.....Total time 18:14 min.
2. Warren Fletcher.....Total time 14:51 min.
3. Leonard Barron.....Total time 13:16 min.

CLASS B FREE FLIGHT

1. George Rizkalla.....12:00 min.
2. Joel Howard.....10:10 min.
3. Lee Arrowsmith.....9:33 min.

CLASS A FREE FLIGHT

1. Frank O'Brien.....9:45 min
2. Anthony Antunes.....9:37 min.
3. Melvin Vreeland.....8:16 min.

FLYING SCALE (all classes combined)

1. L. Hauff—Cap ital Piper Cub.....1:10 min.
2. J. Blohm—Fokker D-8.....0:59 min.

Wakefield DEFENDER

By W. A. MUSCIANO

LOW frontal area, better-than-average climb, soaring glide, streamlined and easy to construct—these are the merits that make this model perfect for contest use. The climb is equal to a high powered Class C rubber job, but the glide is the best I've ever seen, as good as a Class E towline model. The fuselage cross-section was kept to a minimum, only 0.37 sq. inches above that required, so do not reduce it any further.

The original model turned in flights of three to five minutes consistently, and high time was fourteen minutes. The latest model, however, was recently lost after following it over four miles for twenty minutes. These flights were turned in with eight ounce models, and six ounce jobs should perform better.

Specifications for this design are: 198 sq. in. wing area; 63 sq. in. stabilizer area; 11.73 sq. in. fuselage cross section; 34 inches fuselage length; airfoil-Eiffel 400 (modified); weight—(Wakefield, 8 ounces) (AMA rules, 6 ounces).

The stabilizer has slightly less than one-third the wing area in accordance with Wakefield rules. A retractable monowheel landing gear was used on the prototype but it has been observed that the average modeler has difficulty in launching this type properly. The present model has a conventional landing gear and there is little apparent reduction in performance.

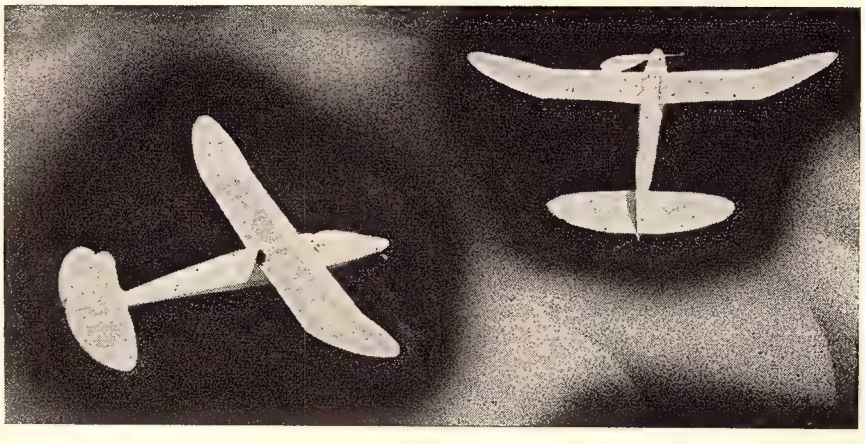
Plans have been prepared with the builder's convenience in mind. All curved parts are shown full size on plate two and it is simple to enlarge the fuselage by following the dimensions given on plate one. The 1/8" square fuselage longerons and cross braces should be made of the hardest balsa available while the solid fin should be made of the softest. Many builders avoid fuselages that do not look like a box in section because they want to save time. This fuselage is simple to construct and takes only a little more time than the box type.

First a box is built and then four 3/32" sheet stringers added and sanded to shape. Even the covering is simple because there are no compound curves. The fuselage is covered in strips, lengthwise, using lightweight silkspan. The wing fairing is covered with 1/32" sheet balsa and cemented to the center section of the wing after the wing is covered with tissue. It is recommended that at least one component of the model be covered in red to keep the model in sight during a long flight.

The propeller should be made of quarter sawed, medium hard balsa. Upon completion, it should be given several coats of dope with intermittent sandings. The hub is made of light gauge metal, however, any reliable folding mechanism may be used. For consistent performance, a rubber tensioner should be used, the one shown on the plans gave excellent results. The spinner should be carved from a block of soft balsa and cut in half along the center line, then hollowed out and cemented together on the hub after the tensioner, etc., has been completed.

The power used was twenty strands of 3/16" flat brown rubber with six inches of slack. Black rubber gives good results but fatigues after a few complete windings. If an eight ounce model is desired and the model falls under weight, it is suggested that the amount of rubber be increased to make up the necessary weight instead of just adding clay or lead shot. Slack will naturally have to be added in proportion.

Wing and stabilizer adjustments are built into the fuselage frame. Slight left rudder and 3/16" combined down and right thrusts were the only adjustments required for good flights. The center of gravity should be at the trailing edge of the wing instead of one-third behind the leading edge because of the lifting stabilizer. The model should be thoroughly tested by hand gliding before powered flights are attempted. The climb should be to the right and at the termination of the power, the model should glide to the left.



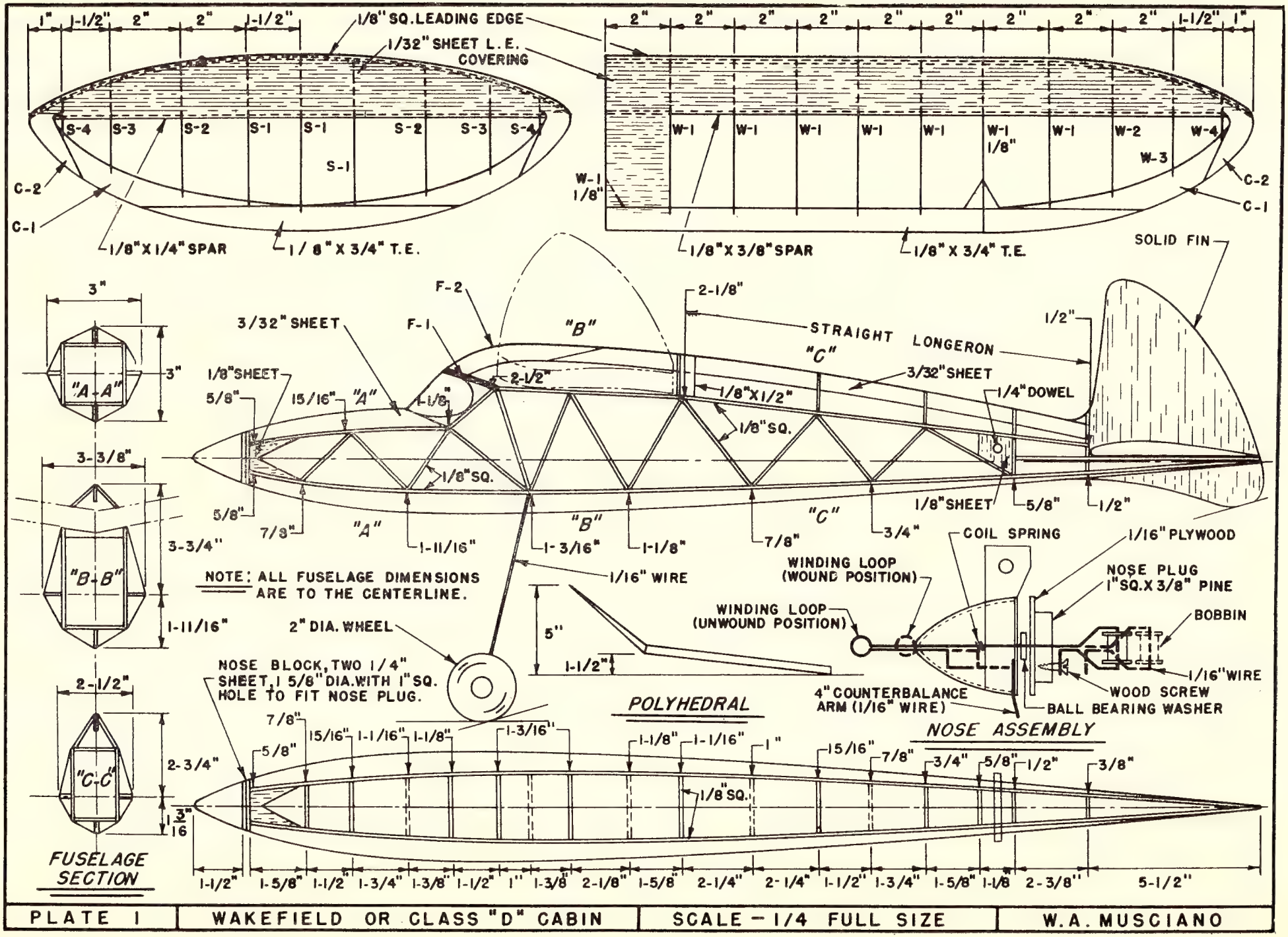


PLATE 1	WAKEFIELD OR CLASS "D" CABIN	SCALE – 1/4 FULL SIZE	W. A. MUSCIANO

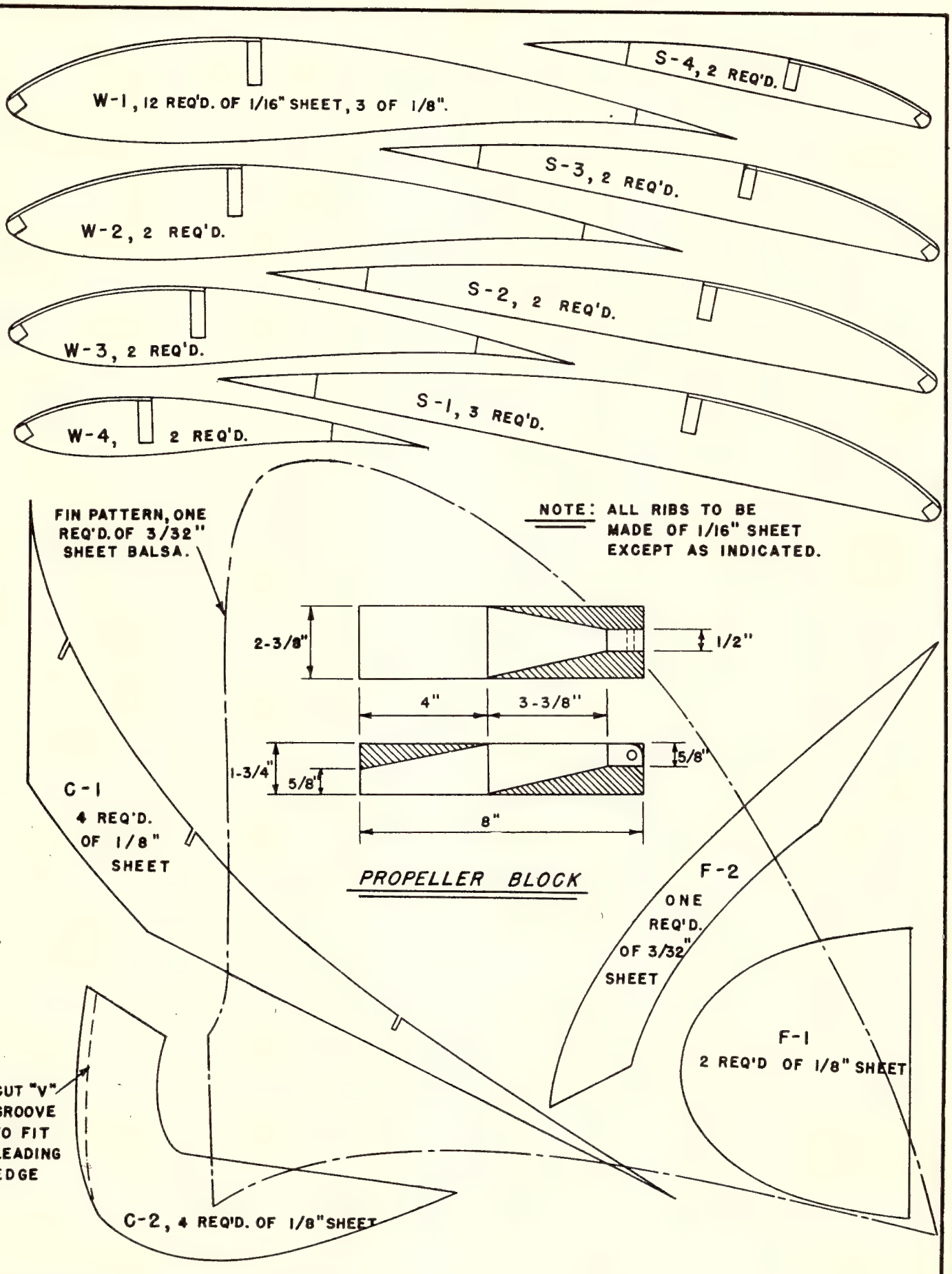
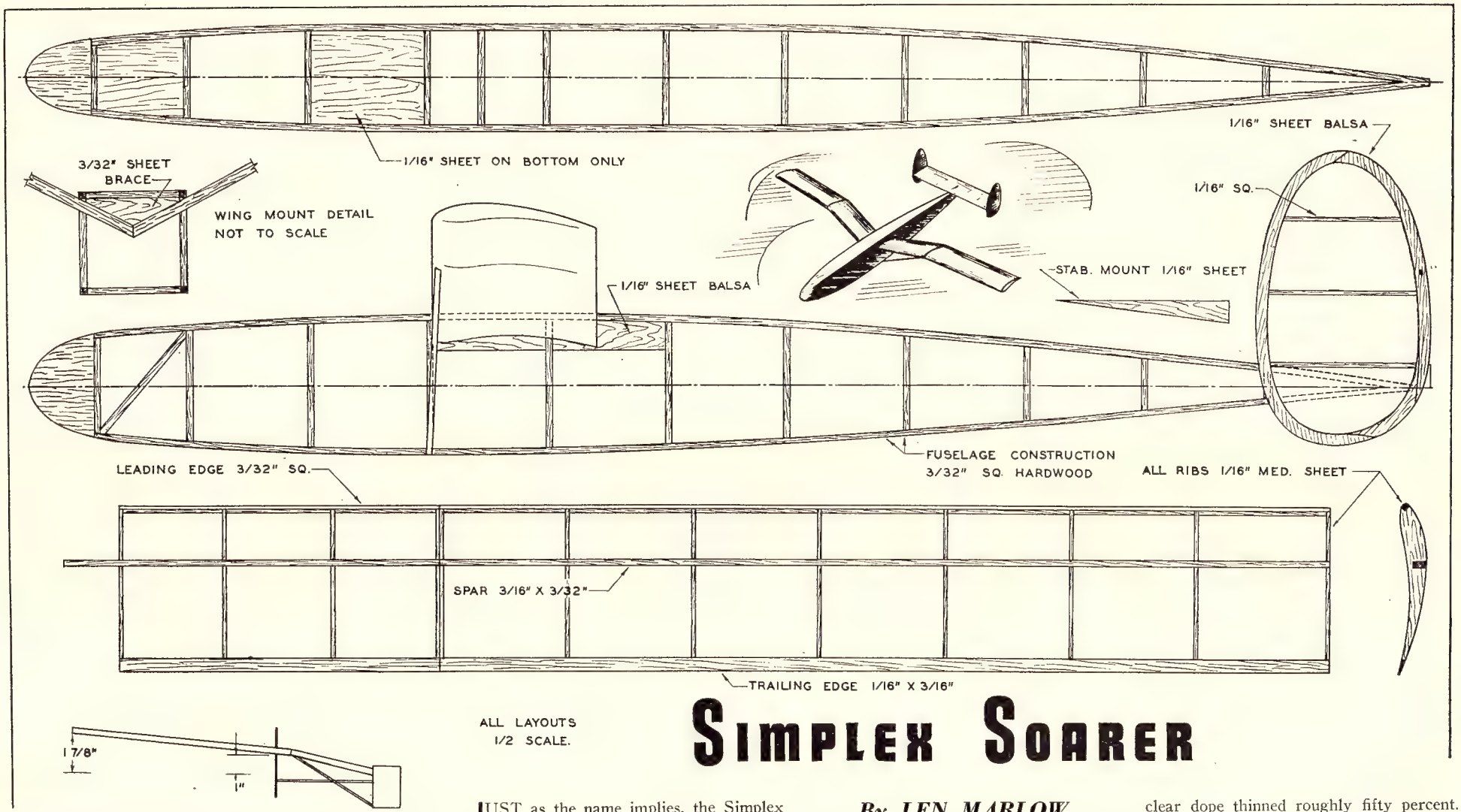


PLATE 2	WAKEFIELD	FULL SIZE	W.A.MUSCIANO



ALL LAYOUTS 1/2 SCALE.

SIMPLEX SOARER

By LEN MARLOW

JUST as the name implies, the Simplex Soarer is a light, simple sailplane. Designed primarily for the beginner, it may also offer a few enjoyable hours for the more experienced builder. Despite its simple design, its rugged construction will take a good deal of banging around without coming to an untimely end.

The fuselage is of the box type, constructed of 3/32" square balsa directly over the side plan view. Fill in with 1/16" medium hard sheet as indicated. Add the solid balsa nose piece, tow hook and stabilizer mounts.

Cut and sand the 1/16" sheet ribs, pin in place over the plans and cement the wing spar and both leading and trailing edges in place. The stabilizer is constructed entirely of 3/32" sq. balsa, and the rudders of 1/16" sheet and 1/16" sq. strips.

Cover the unassembled parts with silkspan and brush on two or three coats of clear dope thinned roughly fifty percent. Before assembling the model, use a razor blade or knife to remove the covering at all joints, then cement all parts in place securely. Wing braces are 3/32" dowel rods.

To balance the plane, insert small weights into holes drilled in the nose piece. Use 150 to 200 feet of light tow line tied to a small, light metal ring. The ring will release itself easily from the tow hook when tension on the line is released.

Photo by J. Crawford

Hamilton, June 29th—B. Lester, Toronto grand champion and Dick Robbins, New Jersey internationally famed hobbyist, examine a scale control job. Right—Roy Thomason, outstanding Canadian model designer, peers gloomily at the camera after the loss of his rubber powered fuselage model. It was destroyed after he snapped his rubber for the first time in 7 yrs.

Photo by J. Crawford

Toronto, June 22nd—General contest view showing official tents in background. Note large cumulous formations accounting for many lost models.

EATON'S MODEL CONTEST

THE T. Eaton Department Store Chain of Canada held their Annual Model Airplane Contests at Toronto, June 22nd and at Hamilton, Canada, on June 29th. These contests were the first run off since 1940, with crowds of an estimated 30,000 in attendance. Richard Robbins, A.M.A. Educational Committee Chairman, reports that these meets were just about the best ever run in the area. Bruce Lester. Torono Champion, was present and Frank Lucas, manager of the Modelcraft Co., directed the meets.

The boys from "south of the border" were invited, the builders from upstate New York going up in force. These N. Y. boys really did a swell job, walking away with a good portion of the prizes. The Flying site was DeHaviland Airport for the Toronto Meet and Hamilton Municipal Airport for the Hamilton affair. The sun fairly radiated off the runways, creating plenty of good and assorted thermals at both meets. These contests followed A. M. A. rules and were endorsed by the A. M. A. (the academy has no jurisdiction inside Canada). A good P. A. system with Ray Smith, one of Canada's outstanding model leaders, took over the meets. First aid tents, ambulances and police guards furnished complete protection.

The events featured Outdoor Rubber Models, Towline Gliders, Free Flight and U-Control Realistic and speed events. A Payload gas event proved to be the most novel and original of the meet.

Cash prizes composed most of the awards, with prizes going down to 6th place in most events. From all reports, these meets were as popular as in pre-war days and enjoyed by all participants. Here's a pat on the back for our fellow modelers up Canada way!

CLEAR DOPE from A. M. A.

Al Lewis

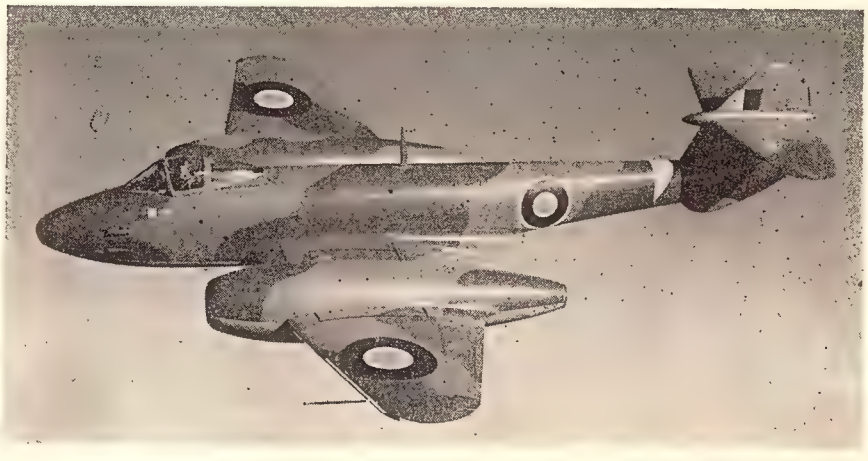
AFTER more than seven years at NAA headquarters in Washington, D. C., Albert L. Lewis, executive director of the Academy of Model Aeronautics division, has resigned to enter the modelcraft sales promotion and advertising fields.

Appointed to succeed Lewis is Russell W. Nichols, AMA secretary-treasurer and during the war, headquarters director of the Academy. "Russ" is well known to model aero leaders and flyers, having organized the first metropolitan association of model airplane clubs in the Nation's Capitol and serving as director of the Air Youth Division of NAA for the past four years.

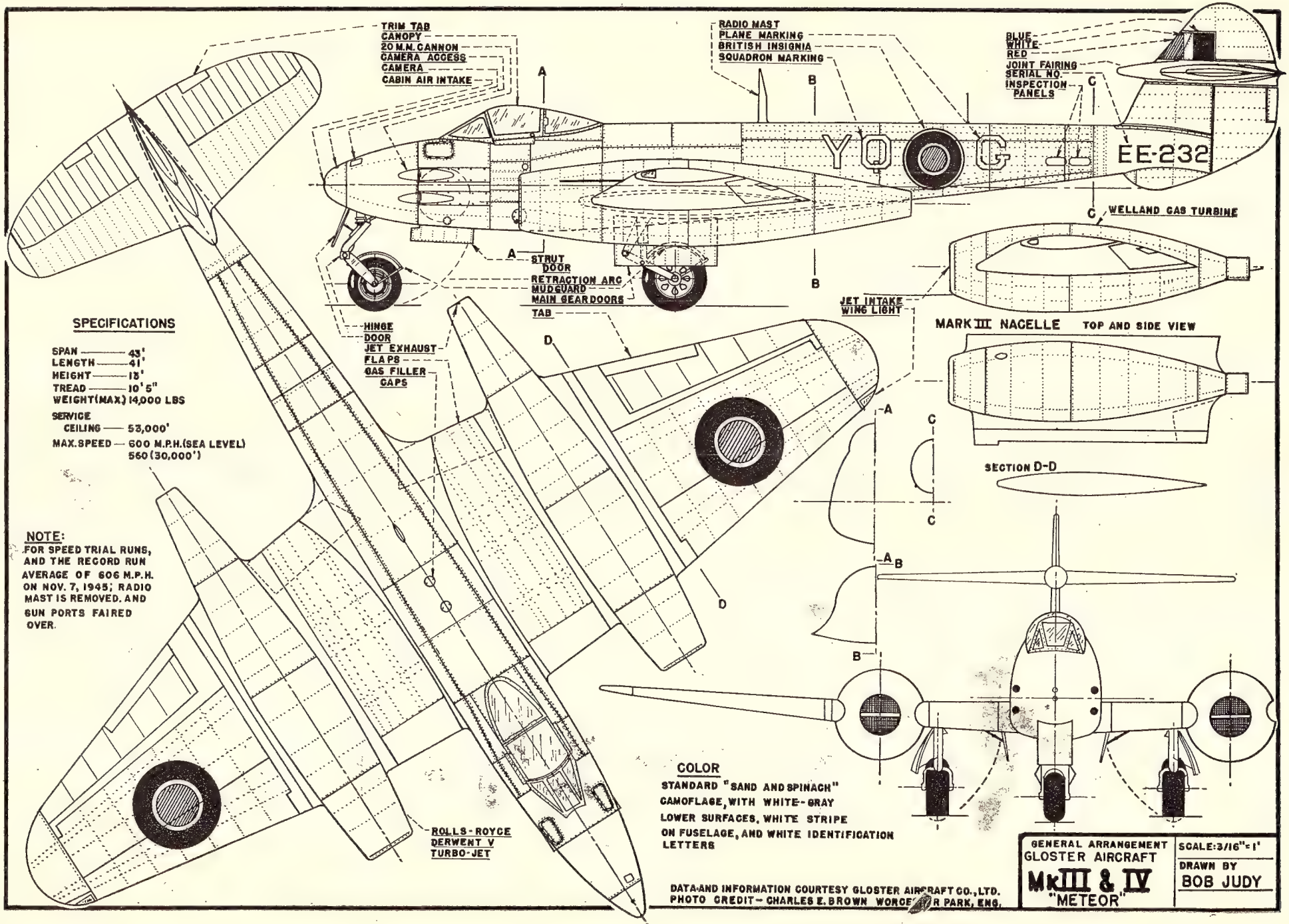
Al Lewis has been active in Academy circles since formal establishment of the governing body in 1936. He served as secretary-treasurer, then president, and later executive director after the organization took over the duties of the Junior NAA in 1940 in an expanded program of activity.

Upon announcing his resignation, Lewis stated, "After my return to civilian life from service in the Air Force, I felt it necessary to continue with the Academy until such time as its post-war program could be put into effect and until the club was on its feet financially. Now that it has reached such a stage, I am returning to the sales promotion and advertising fields, long my major interest after the AMA.

(Continued on page 55)



See next page for 3/16" scale plans for building the "Meteor".



SPECIFICATIONS

SPAN	43'
LENGTH	41'
HEIGHT	13'
TREAD	10' 5"
WEIGHT (MAX)	14,000 LBS
SERVICE CEILING	53,000'
MAX. SPEED	600 M.P.H. (SEA LEVEL) 560 (30,000')

NOTE:
FOR SPEED TRIAL RUNS, AND THE RECORD RUN AVERAGE OF 606 M.P.H. ON NOV. 7, 1945; RADIO MAST IS REMOVED, AND GUN PORTS FAIRED OVER.

COLOR
STANDARD "SAND AND SPINACH" CAMOFLAGE, WITH WHITE-GRAY LOWER SURFACES, WHITE STRIPE ON FUSELAGE, AND WHITE IDENTIFICATION LETTERS

DATA AND INFORMATION COURTESY GLOSTER AIRCRAFT CO., LTD.
PHOTO CREDIT – CHARLES E. BROWN WORCESTER PARK, ENG.

GENERAL ARRANGEMENT
GLOSTER AIRCRAFT
MkIII & IV
"METEOR"

SCALE: 3/16" = 1'

DRAWN BY
BOB JUDY

PHILADELPHIA FLYING CIRCUS

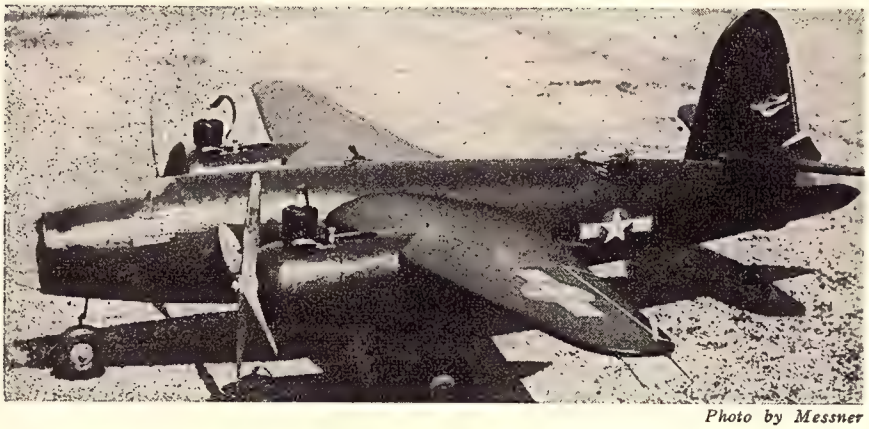


Photo by Messner

A B-26 model that flew nicely with two Ohlsson "60" engines in the nacelles.

Photo by Calhoun

George Suguichi of the Cleveland Control Liners, warms up his plane which captured first place in Class B open, Tether Control.

SEPTEMBER 8th was the big day in the town of Brotherly Love. With a clear, bright sunlit day, the 2nd Annual Flying Circus Contest got under way. Flying site was at the Willow Grove Naval Air Station, located just a few miles northwest of Philadelphia. As in the previous meet, the contest included events for Rubber Models, Beauty, Towline Gliders, Free Flight Gas—all classes, U-Control Speed—all classes, and U-Control Stunt. Contestants were attracted from all over the country totaling about 1500 in number.

Contest was sponsored by the Philadelphia Record newspaper and the Philadelphia Retail Dealers Association. Ed N. Angus was contest director again, with B. Paul doing the announcing and nearly losing his voice in so doing. Tabulation and recording was done by Bill Berry assisted with an able staff.

Per usual, the free flight gas models and U-Control Speed had the largest number of entrants with keen competition. Because of the ideal flying weather for speed models in the early morning, most of the winning flights were made at this time. As the sun came up and the haze burned off, old King Thermal was out there lifting many models up into the blue. Between 10:30 A. M. and 3:00 P. M., flights of ten minutes were common.

In the U-Control event, design of the models were considerably advanced over last year's types, with most engines being completely cowled in, and take-off dollies in universal use. Whipping of models was at a minimum due to the AMA rules requiring the use of a center post or pylon. Although speeds were cut down several miles per hour, much more even competition was evident with the well known whip artists standing the same chance as the inexperienced speed flier.

The Beauty Event attracted some stunning models, with a Howard Piper Sky-Cycle, F4U Corsair, Martin Marauder B-26, Hall Racer, P-39, Tiger Cat and Beech Craft among the entries. Alex Pegon, of Norristown, Pa., was the winner of this event with his Hall Racer entry as seen in the photo. Group picture of this event is also shown. Two of the more unusual entries are shown in the photos also. One resembles a Buck Rogers dream ship. The design was based upon the Autogiro principle and had a Phantom P-30 neatly cowled into a nacelle which pulled the connected rotor around at high speeds. This whirling rotor was to supply the upward thrust needed to raise the model into the air. At the time the model was tested, we were not around, but are anxious to learn if it ever did leave the ground. The other unusual model was a true flying wing speed model powered by a McCoy engine, built by Francis Morrow of Ardmore, Pa. From its appearance and past experiences, the model should fly well and react with great sensitivity to elevator movement. (*Turn to page 54*)

Awarding the Ercoupe at the Flying Circus. L. to R.—G. Kraus, Vice Pres. Philadelphia Record; E. Angus, Meet Director; E. Babcock, Jr., Meet Champion; Capt. C. Ewan, Commander of Willow Grove Air Station; Ernest Babcock, Sr.

Photo by Marder

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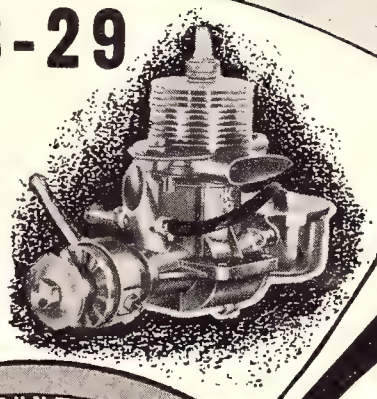
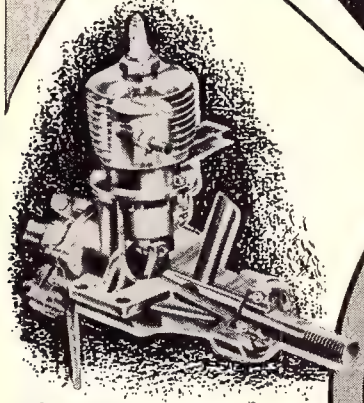


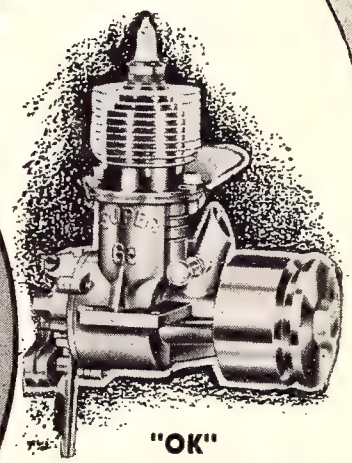
ALL OK in name in performance



'OK' SUPER 60

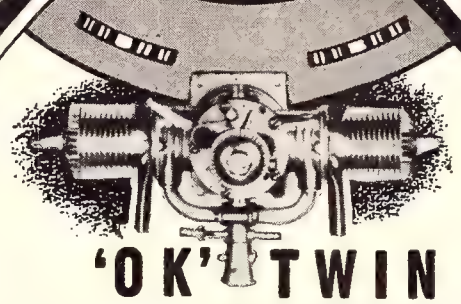
With 3 position TIMER CONTROL

Super "60" — a mighty "C" power plant — features rotary valve with venturi opening over 1/3d diameter of cylinder bore; Patented porting; Oversize ball-bearing to take radial and thrust loads. Piston machined from steel (not stamped) hardened and lapped to cylindor. 3 position timer offers selective control in plane, race car or boat. Complete with spark-plug, bakelite tank and neoprene fuel line. $18.00



"OK" Raceway-Marine "60" "Keywayed" Crankshaft and Flywheel

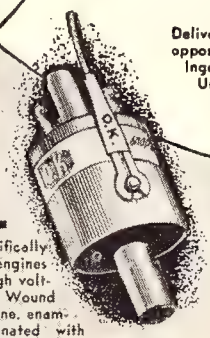
"60" Raceway and Marine engines are block-tested at speeds exceeding 10,000 R.P.M. Piston precisely fitted with necessary extra clearance for top speed performance. Both crankshaft and fully, machine balanced flywheel are precision "Keywayed." Complete with spark plug, bakelite tank and neoprene fuel line. $23.00



'OK' TWIN

With 1 Piece MONO-TYPE CONNECTING ROD

Delivers smooth, unwavering 1/2 hp despite extremely light weight (only 32 ozs.) Two opposed cylinders, simultaneous firing. Die-cast aluminum alloy crankcase, split-type. Ingenious crankshaft design for operation with mono-type (1 pc.) connecting rod. Unmatched power-to-weight ratio for largest models, radio-control and general experimentation. Complete with spark-plugs, bakelite tank and neoprene fuel line. $49.00



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"OK" IGNITION PACKS FOR SINGLE & TWIN CYLINDER ENGINES

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FREE! New "OK" Engine Brochure.

Includes hook-up diagrams, illustrations and specifications for each "OK" engine. If not available at a neighbor-dealer, write for copy direct to factory.

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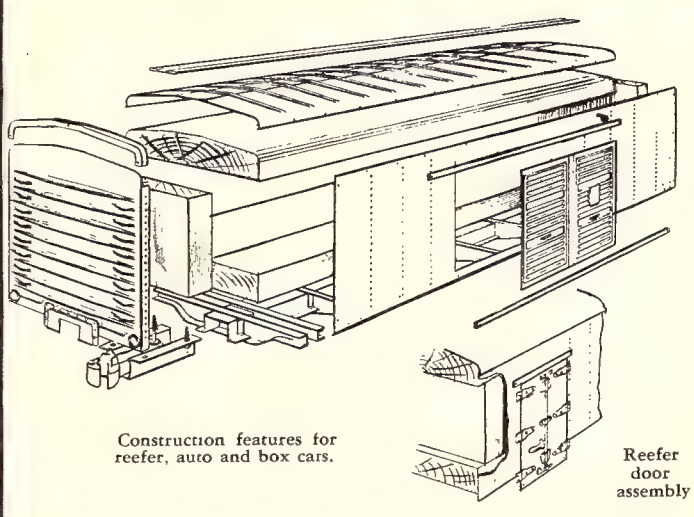

Construction features for reefer, auto and box cars.

Reefer door assembly

Here's a "side-door pullman" that's *built* like a pullman . . . and rides the rails like a dream! Designed by Scale-Craft to replace the die-cast construction formerly used, this new stamped brass box car is tops for realistic detail, and finishes up like a pullman. Kits come all knocked down and ready to assemble, bringing you nearer to actual box car construction, and providing many fun-filled hours of relaxing enjoyment.

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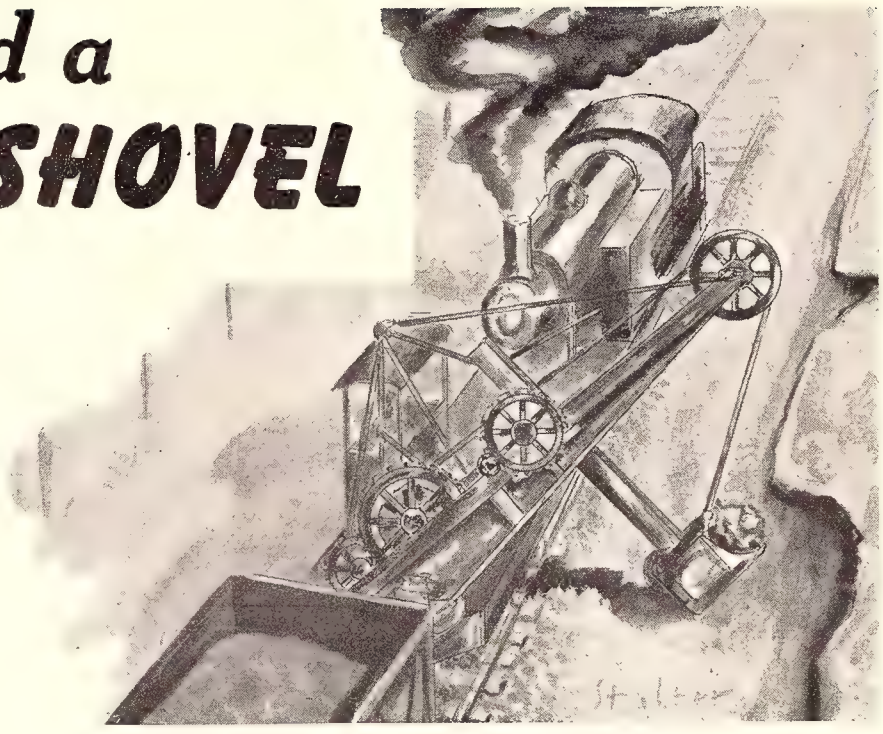
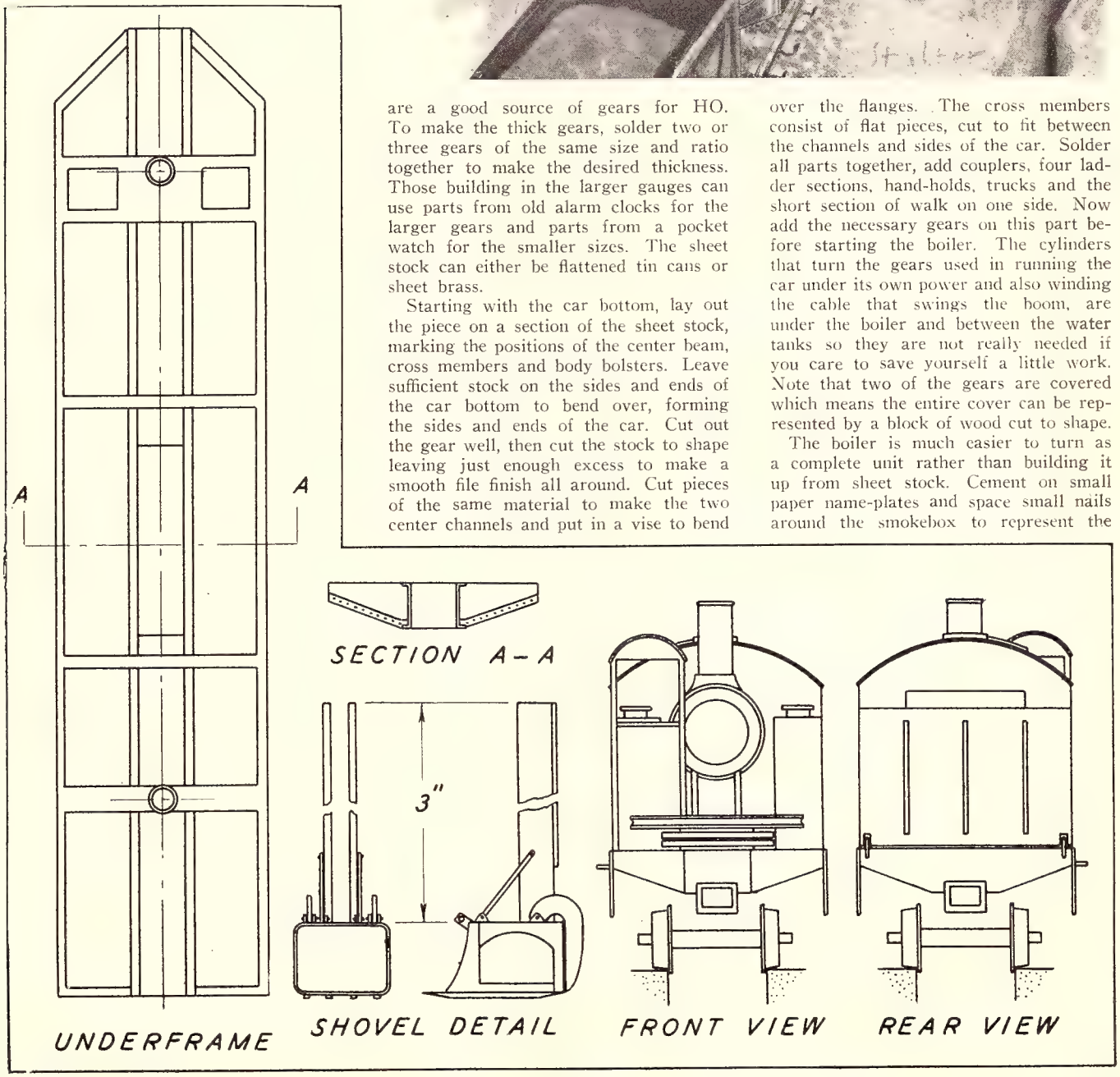


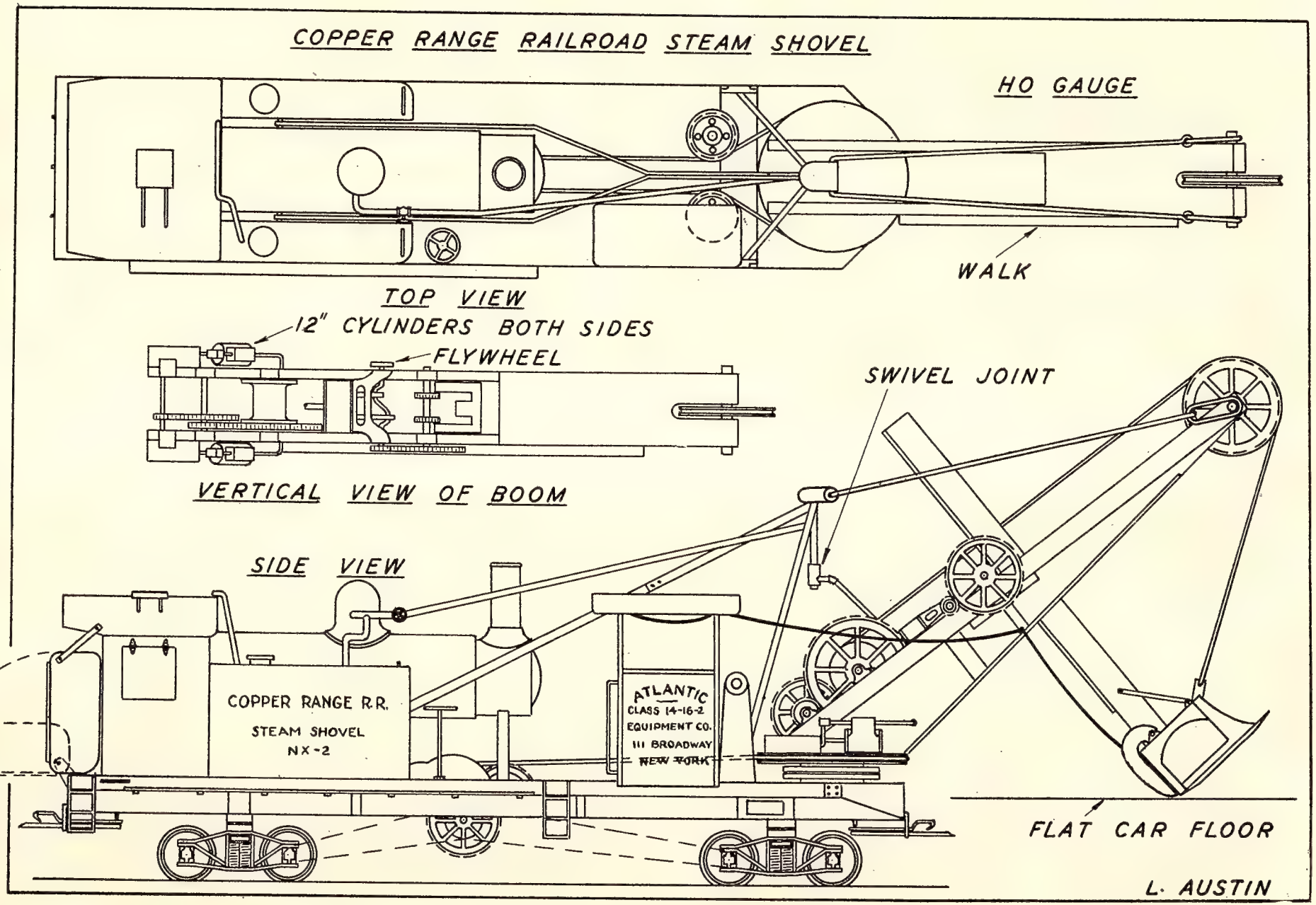
THIS railroad steam shovel is termed as Robinson's Patent, patented in 1902, and as job #40422 of the Richmond Works of American Locomotive Co., built in September of 1906. The presence of rust on the steel parts and dry-rot of the wooden parts show that it has not been used in years, yet all this does not keep it from being a pleasing sight as it sits on a side track outside the Houghton Yards of the Copper Range Railroad Co.

Regardless of what gauge you are working in, your first concern is to get the materials ready. Old pocket watches are a good source of gears for HO. To make the thick gears, solder two or three gears of the same size and ratio together to make the desired thickness. Those building in the larger gauges can use parts from old alarm clocks for the larger gears and parts from a pocket watch for the smaller sizes. The sheet stock can either be flattened tin cans or sheet brass.

Starting with the car bottom, lay out the piece on a section of the sheet stock, marking the positions of the center beam, cross members and body bolsters. Leave sufficient stock on the sides and ends of the car bottom to bend over, forming the sides and ends of the car. Cut out the gear well, then cut the stock to shape leaving just enough excess to make a smooth file finish all around. Cut pieces of the same material to make the two center channels and put in a vise to bend over the flanges. The cross members consist of flat pieces, cut to fit between the channels and sides of the car. Solder all parts together, add couplers, four ladder sections, hand-holds, trucks and the short section of walk on one side. Now add the necessary gears on this part before starting the boiler. The cylinders that turn the gears used in running the car under its own power and also winding the cable that swings the boom, are under the boiler and between the water tanks so they are not really needed if you care to save yourself a little work. Note that two of the gears are covered which means the entire cover can be represented by a block of wood cut to shape.

The boiler is much easier to turn as a complete unit rather than building it up from sheet stock. Cement on small paper name-plates and space small nails around the smokebox to represent the



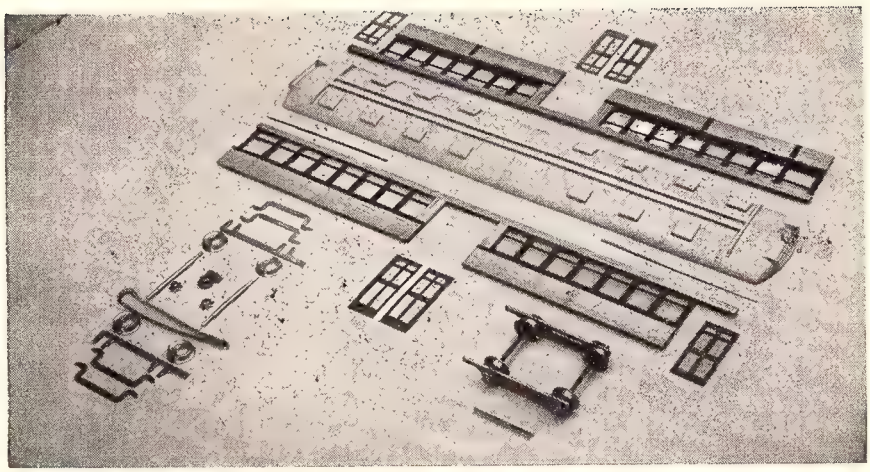

COPPER RANGE RAILROAD STEAM SHOVEL
HO GAUGE
WALK
TOP VIEW
12" CYLINDERS BOTH SIDES
FLYWHEEL
VERTICAL VIEW OF BOOM
SWIVEL JOINT
SIDE VIEW
COPPER RANGE R.R.
STEAM SHOVEL
NX-2
ATLANTIC
CLASS 14-16-2
EQUIPMENT CO.
111 BROADWAY
NEW YORK
FLAT CAR FLOOR
L. AUSTIN

rows of rivets. The steam dome and smoke stack are also turnings inserted in holes drilled in the boiler. Fill in with plastic wood to make the fillets around the bottom of the dome and stack. The single pop valve can be filed from a nail and pushed into place on top of the dome. The cab front and rear are best cut from thin wood. Cut openings for the boiler to pass through the front and also for the doorway in the rear. Cut the cab sides and roof in one piece from sheet stock, keeping in mind that the windows are just slightly smaller than the covers over them. Bend this to shape and fasten to the wooden ends with small model-maker's pins. The sliding hatch with its rails and window covers can be made of bristol board and cemented in place. The coal bunker is a block of wood cut and sanded to shape. I mounted this piece in the "up" position permanently and made the three small angle sections from sheet stock bent to shape. It is best to leave the water tanks off until you can secure the strap-iron braces, however, make them from wooden blocks, push in staples for the hand-holes and make the hatches from two thicknesses of card.

The operator's cab consists of two sides, one slightly longer than the other as it fits partly over the side of the car and the other cut out on the bottom to provide clearance for the pulley that fits partly under the cab. The back of the cab is open, making it necessary to construct only the front piece. Use care in soldering this unit together for you'll be proud of it later if you do. The floor can be made of bristol board, scribed to represent three-inch planks. Cement in position immediately above the pulley that enters under the cab. Control levers can be filed from thin sheet stock and pushed into the floor. If you are a stickler for detail, there are three foot-pedals that cannot be seen on the drawing. Solder the cab assembly in place.

According to an old brakeman, the unit directly in front of the cab is some form of jack assembly. He did not know how it was used, but it consists of an H column across the width of the car and welded to the ends are castings to which the two upright side members are pivoted. On top of these are three-inch threaded holes for jack screws.

Start the swiveling unit next to which the braces and steam pipes are fastened. The top piece of this assembly swivels with the tie-rods supporting the boom, and the rest is stationary. This top piece can be filed from brass, a 3/32" hole drilled through the middle and countersunk halfway to fit the head of a copper nail. After putting in the nail, sweat on a piece of tin to keep the nail in place and file it even with the bottom. Before going any further, drill a hole through the front of this unit to take your tie-rod wire. Cut the strap-iron braces to length and note that two are soldered to the floor of the car behind the water tanks and then bent to fit around the boiler. Solder the two front braces to the H column of the jack assembly at the proper angle. Solder the two loose ends beneath the boiler and now mount the water tanks. The water pipe that enters through the roof can now be bent to shape from wire and mounted. Now go back to the joint where you have the four braces mounted and file the tops as even as possible. Spread the two center pieces just enough to allow the nail to fit between them and allowing the top enough clearance to turn freely. Solder the nail firmly in place. The steam line can now be bent out of heavy wire. Push one end into the steam dome and solder the other end to the lower part of the nail. The pipe that goes behind the water tank supplies the cylinders under the boiler. Adding the brake wheel and the hand-hold on the operator's cab will complete the car with the exception of the boom.



Components of the model Pacific Electric 600-700 Class Car described in our May issue.

If you do not have access to a metal lathe, use flat washers for the swiveling joint. Solder one to the car floor and the other to the bottom of the eight foot pulley that forms the base of the boom. To make this pulley, cut one circle of thick sheet brass to a scale of 7½ feet in diameter and two of thin sheet brass to a scale 8 feet in diameter. Then solder one to the top of the thick circle and the other to the bottom. Drill a hole through the center of the pulley and through the cab floor. Mount the pulley tight enough to prevent any wobble but allow it to turn easily. Cut the two boom sides from sheet stock and at the top edges of these solder the 18" channel sections. Note that a cat-walk is mounted on the right side of the boom that extends from the bottom almost to the top. Cut the two sheets used as spacers on the top and bottom of the boom. Clamp the two sides together and solder the spacers in their proper locations. Next solder the lower ends of the boom sides to the large pulley. Now you can go to work and put on your gears and even if you cannot get ones of proper size, use what you have and stagger them to fit. The guide for the racks should be filed out of brass and soldered in place after the gears are mounted so that the rack will have clearance enough to slide freely. The two cylinders on the boom and the two on either side of the boom are made from scrap pieces of brass filed to shape and soldered in place. The pulley on top was made of three large clock gears with the teeth filed off and soldered together. Mount the tie-rods and the steam pipe that feeds the cylinder and you are ready for the racks and bucket.

The racks are made from brass with a spacer soldered between them at the bucket end. The guide inside the boom will keep the other ends apart. The bucket itself is a piece of tin, bent to shape around a block of wood and soldered together at the rear. The teeth are filed out of brass and soldered to the front of the bucket. The hinge supports and hanger that supports the cable end are soldered on next. To complete this unit, file the hinges out of sheet metal and solder them to the bucket bottom, being careful that the ends fit between the supports. Fit the rope that runs from the cab to the bucket bottom and your steam shovel is ready for the paint shop.

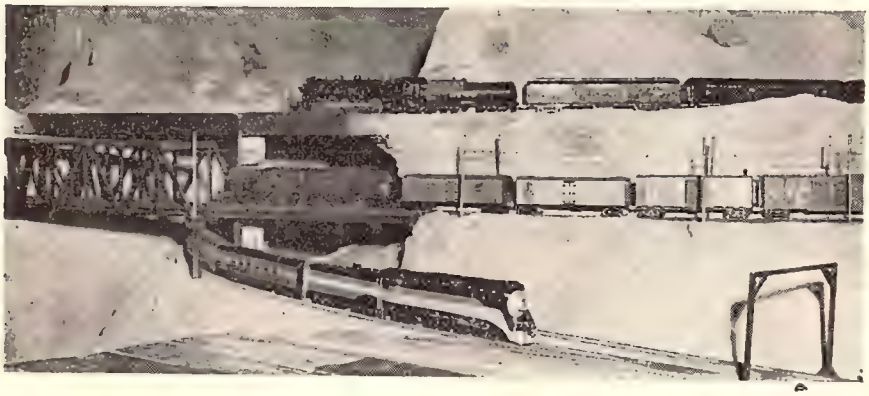
The prototype of this steam shovel is painted entirely black with white lettering. To make the wooden parts resemble metal under paint, give them a thin coat of shellac or lacquer and sand smooth when dry. If at any time during construction of your model any questions should arise, study the drawings carefully, for you'll find all the answers there!

Pike Registry Bureau

ALLEYPOND CENTRAL RAILROAD COMPANY, Walter Hulseweder, Brooklyn, N. Y. (HO)
CALIFORNIA NORTHERN LINES, Don & Joe Hedgpeth, San Francisco, Calif. (HO)
EERIE SYSTEM, E. D. Pyzel, Haywood, Calif., & Lester L. Westling, Oakland, Calif
HIERBA BUENA AND EASTERN TRACTION LINES, Lester L. Westling, Oakland, Calif. (O—Tinplate)
LONG ISLAND CENTRAL RAILROAD, Nick Munzing, Richmond Hills, N. Y.
MISSOURI MIDLAND LINES, John Mitchell, Kirkwood, Mo. (HO)
MOSHOLU AND VAN CORTLAND RR, Marvin Cohen, Bronx, N. Y. (O—Tinplate)
PACIFIC NORTH WEST LINES, Don Lindstron & Wm. Carlton, North Bend, Ore. (HO)
ROXBOROUGH & NORTHERN RAILROAD, Edward T. Gibbs, Brooklyn, N. Y. (HO)
SIOUX & NORTHERN RY (Route of the SNOW KING), Theo A. Doucet, 1st Lt., QMC, Columbia, S. C. (HO)
THE CANADIAN NATIONAL & PACIFIC RR, C. Arnold Millar, Ottawa, Canada (HO)
THE INDIAN MOUNTAIN LINE, Frank W. Schmitt, State Park, S. C. (HO)
THE LAST MOUNTAIN & QU'APPELLE RR., C. Arnold Millar, Ottawa, Canada (HO)
THE MISSOURI CENTRAL, The Missouri Central Model RR Club, Kirkwood, Mo. (O)
WALBROOK AND WESTERN RR., Joseph F. Schmitt, Baltimore, Md. (Stan. Tinplate)
WESTERN PACIFIC, George A. Westphal, Wyandotte, Mich. (HO)
TEXARKANA AND EL PASO RAILWAY, Major Sam L. Hunnicut, Fort Riley, Kansas (HO)

The C. P. Huntington shown on the O gauge layout. Below—Two engines in foreground made by Walter Brown. The GG-1 is owned by Maurice Maede and has an operating catenary.

EASTBAY MODEL



LET'S hit the rails for the west coast—out "Where Rail and Water Meet." We're speaking of that grand bunch of fellows in Oakland, California, the Eastbay Model Engineers. They're a versatile group of rail fans and real ambitious, too! Once their minds are set on a goal, nothing can stop 'em, come hell or high water! Take the recent NMRA Convention at Detroit, for example. The Eastbay boys went to Detroit determined to return with the good news that the 1947 Convention would be held at Oakland, and return they did—with positive proof for 1947. Maybe their system worked, or maybe it was just their splendid hard work, but nevertheless they let the boys at Detroit know that the Eastbay gang was wide-awake. They took with them a huge banner from the City of Oakland reading "Go West in '47," tags to give all registrants at Detroit and even phosphorescent signs that could be seen at night. Nothing was forgotten, even to engraved invitations from the club itself as well as the PCR and the Mayor of Oakland. Jack Collier, that live-wire gentleman who is secretary of the club, started this movement for the 1947 convention quite some time ago, and at last it has paid off!

Let's take a peek at the inside of this organization and get some idea of what to expect at the next convention. These fine photos give a good picture story of their layout and rolling stock and show the extent of their handicraft. At present, they have over 13,000 square feet of space given over to the operation of model railroads. Their two-rail O-gauge system is located in a room 64 by 132 feet in area and their HO system in a room 36 by 90

Center—Portion of the O gauge layout. #3740 is owned by Reg Cushing, The S. P. Daylight seen in the foreground is owned by Bob Smith. Bottom—Meet the boys at Eastbay. Seated rear row: J. Collier, R. Cushing, J. Lowe, B. Rich, B. Peterson, D. Stewart, E. Greer, A. Poirier, W. Brown. Seated front row: B. Quarry, Vice Pres., B. Hannah, L. McCoy, R. Hannah, B. Wilder, J. Melady, M. Ericson, R. Ahrnke, T. Sill. Right Row, front to rear: J. Munson (Pub. Rel.), C. Blankenship, B. Smith, S. Johnston, W. Schainner, Doc Meyers. Rear standing: L. McKinney, B. Havenor, J. Schoff, J. Cryderman, Doc Scudder, M. Maede, B. Cryderman. Center front: Pres. P. Johnson.

EASTBAY MODEL ENGINEERS SOCIETY

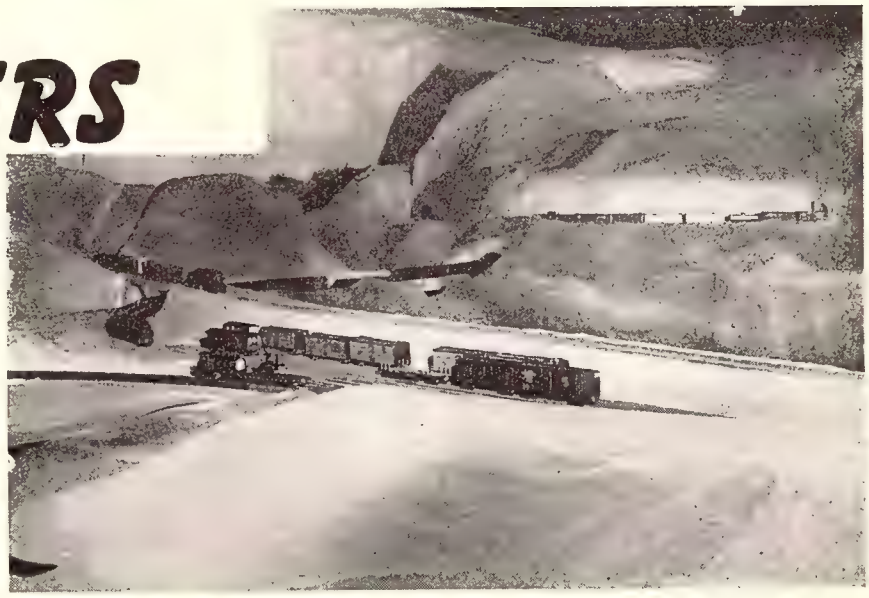
feet, with interurban lines included in both gauges.

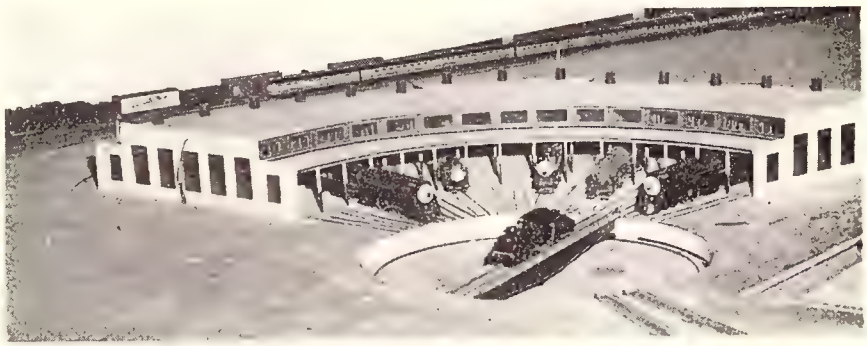
The Eastbay Club will celebrate their 15th anniversary next May with a big Pre-Convention Show. Fifteen years ago, they started out in a small way at Graham Hardy's Book Store and later moved into the Western Pacific Depot where they continued operations until the war put them out. Santa Fe took a liking to the boys at this point and took good care of them until now the club is almost a fixture. Some of the "old faithfuls" are still with the club and working hard, such as Walter Brown, Earl Fancher, Russ Ahrnke, Ray Gillette and Bob Hannah. The entire membership is most versatile, capable of handling any type job that comes along. They do their own electrical, radio, carpenter and electronic work, and even boast of commercial artists, photographers, engineers and firemen on their staff.

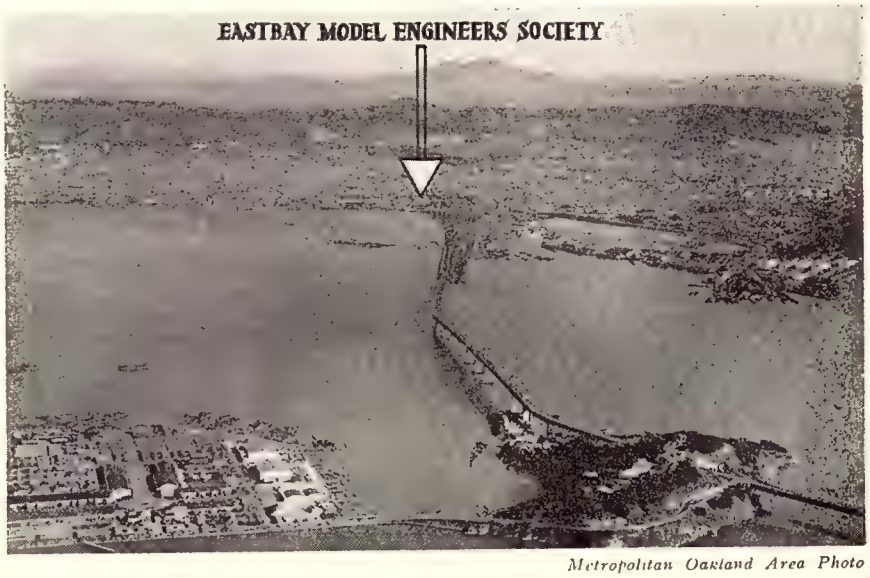
The Club is situated alongside of the San Francisco Bay Bridge and within sight of the Golden Gate Bridge. Key System Interurban trains pass near by. The Southern Pacific is right at their back door where all the main lines pass, and the Santa Fe Main Transfer Track is just outside their side door. Real handy—when they want actual sound effects, they simply open the doors!

Club organization follows strict railroad practice from Train Master, Dispatcher, etc., right on up to Road President. Stock certificates are issued on the basis of service to the club, with time being the biggest item, such as ten shares for ten years' service, etc.

Main theme of their layouts is "Along the Santa Fe," with both O and HO systems having their own Santa Fe names. Stations on both lines have been taken from the Santa Fe map, Barstow, Cajon, Richmond, Bakersfield, Grand Canyon, etc. Study the photos for a good idea of their rolling stock and equipment.







Top photo will give you some idea of the vast size of their HO layout. Center—HO roundhouse under construction. Locomotives were made by Bruce and Jim Cryderman, Doc Scudder, Jack Schoff, Ray Wilder, Jim Melady and Bill Elliott. Below: This view gives you a rough idea of the Eastbay Club location. Take a good look—you'll be seeing this next year!

Metropolitan Oakland Area Photo

WORM DRIVES

for O-Gauge Locomotives

By WARREN B. CRATER

THIS is primarily for the fellow who is building a model locomotive for which there are no kits or kit parts adaptable. Experience has proven that even new builders have assembled very successful drives for their locomotives with very little help. The principal difficulty seems to have been in the purchase of proper gears, etc. We will consider only parts which are readily available in most cities. Phonograph gears are available at repair and servicing shops. Products of the Boston Gear Works are stocked by branch offices and representatives in all large cities.

Gear ratios are practically unlimited. Two reduction drives are not required for this purpose, but are necessary in some installations for clearance or desirable to procure straight line mounting.

Ratios are determined by dividing number of teeth in the gear by the number of threads in the worm, in spur gears by the number of teeth in each.

The simplest form is the direct drive (see plan). In most installations however, it is necessary to set the worm and motor at an angle, in order to clear the frame or cradle. This arrangement is generally possible only with locomotives having trailer and a large firebox. The drawing shows a phonograph worm (known as governor shaft) with an adjustable thrust bearing also a phonograph part. These worm and gear combinations, according to their make, are from 12-1 to 17½-1. Gear diameters are from ⅞" to 1⅜".

If you have used the frame construction as suggested in my previous articles on the 4-4-2C and 2-6-2T locomotives (July & Sept. 1946) the bearing block should be ¼" x ¾" brass drilled for thrust bearing and screwed between frame members as described previously. A 6-32 set screw is necessary to hold the bearing. If this bearing is not available, substitution may be made. (See detail A) Use ½" x ¾" brass, drill #28 half through, and tap 8-32. Drill through for bearing end of worm shaft, drill oil hole from the top. Insert a ⅛" steel ball bearing, secured with an 8-32 cup point set screw held with a lock nut. A thrust bearing for brush end of motor shaft will be necessary. (detail B) This is for a K & D motor. Remove screws which hold the brush mounting. Make bearing plate as shown, drilling ⅛" at center to allow ⅛" steel ball to protrude about half. Drill end holes #27 to clear 6-32 screws. Make spacers in form of sleeves and mount as shown. Mounting screws must clear brushes and commutator. To couple motor shaft to worm shaft, a simple brass coupling can be turned. (detail C) Drill part way through to a hand fit on the worm shaft and then drill through to a loose fit on the motor shaft. Cut both shafts to proper length with respect to necessary location of motor. Use a taper pin to hold coupling to the worm shaft and a taper pin through the motor shaft to run in the slot which is sawed and filed in the coupling. To make taper pins, chuck #48 to #52 drill rod in the lathe or drill press and form the taper, using a flat file. When driving the pins, support shaft on bench block to prevent bending. Cut off excess.

The motor bracket may be made from sheet or angle brass 3/32" thick. The holes on ⅞" centers are for 6-32 screws to mount the K & D motor. The space in between is to clear the bearing housing. Alter to suit if using other motors.

The above is ideal for passenger locomotives having drive wheels of 1⅜" or larger. Dimensions have been purposely omitted, due to variation in stock parts. The drawing shows the drive used in both of my 4-6-2 and 4-4-2C engines.

This direct drive may be used for freight and switching power with a selection of Boston gears of 48 pitch. (Pitch equals number of teeth per inch of diameter) These are made in single, double and four thread steel worms with a selection of gears for each. Worms are ⅛" pitch diameter and the gears vary according to the number of teeth. For switchers with wheels 15/16" to 1¼" diameter, use single thread worm #SH with worm gears as follows:

Drive Wheels	Gear #	Teeth	Pitch Dia.	Ratio
15/16"	G-1019	30	5/8"	30-1
1 1/16"-1¼"	G-1020	40	5/8"	40-1

These combinations produce speeds of about 30 to 35 scale miles per hour. Their application will be described below in connection with the two reduction drives. For my own personal use, I always keep on hand double thread worms #DSH and worm gears D 1119 as well as 48 pitch spur gears nos. G-129 to G-141, making possible any ratio from 15-1 to 50-1.

The total ratio (motor to drive wheels) with gear numbers shown on drawings for two reduction drives is 30-1. This is ideal for freight engines having drive wheels of 1⅛" to 1 9/16" diameter and producing speeds of 30 to 55 scale MPH, the larger wheels producing higher speed in proportion to their size. Other gears are available with the #DSH worm making possible ratios from 10-1 to 50-1. There is also the four thread worm QSH with gears for ratios 5-1 to 25-1.

All worm gears are bored 3/16" except the two largest sizes in each listing which are bored ¼". All come equipped with hubs. The worm hubs are drilled suitable for taper pins as described for shaft coupling on the direct drive. All hubs can be drilled and tapped for #6-32 set screws. When the gear hole is larger than the axle diameter, it must be bushed before drilling for the set screw. Determine the length of both the set screw and taper pins so they will not protrude to foul up other parts.

The two-reduction drive (see plans) is a combination of worm and spur gearing. If a phonograph worm is used, bearings may be as described. Boston worms must be mounted on shafts of 3/16" drill rod and secured with taper pins. At the point where the bearing is at the end of the shaft, the ball thrust is built into the bearing block. Use ½" x ¾" brass, drilled slightly smaller than the shaft to a depth of 7/16", then open to full diameter

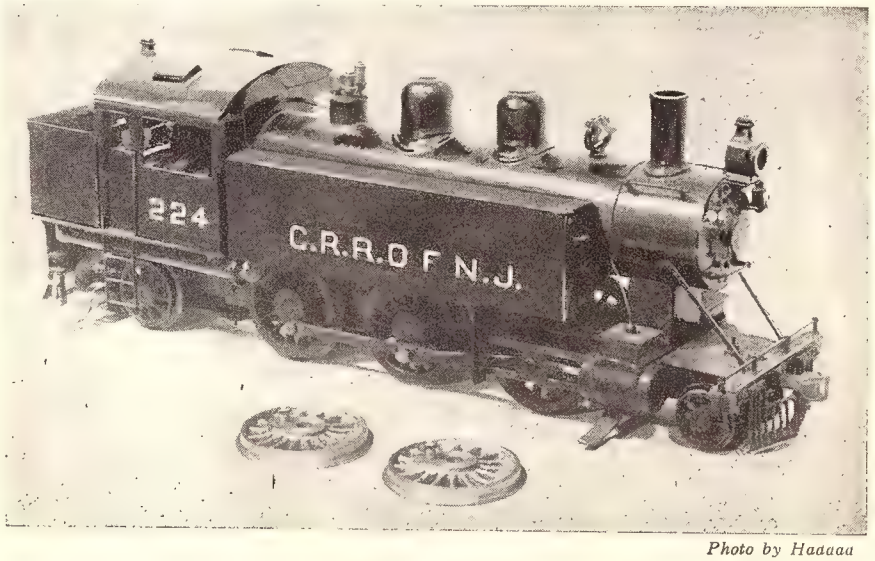


Photo by Haaaaa

Here's another view of the Author's Suburban Locomotive described in the September issue. Worm drive was used in this model following his description given here.

with 3/16" drill. Drill oil hole. Insert 1/8" steel ball for thrust bearing. Grind the end of the shaft smooth, square and slightly beveled.

Where it is necessary for the shaft to pass through the bearing block, use 3/16" x 3/4" brass, drill through and open to size and drill oil hole. Here the thrust bearing is a Boston "Thrust Ball Bearing" with bronze ball cage #A01 for a 3/16" shaft. These are also available in shaft sizes to 1/2" by sixteenths. A collar with taper pin will be necessary. Set up with as little end play as possible, allowing free turning. The spur gear #G-139 is bored 3/16". This may be pressed on the end of the worm shaft. Spur gear #133 is bored 1/8" which makes some alterations necessary. The gear may be fastened to a hard wood block by brass escutcheon pins driven between the teeth, then reaming through the hole with the proper drill in your drill press. Accuracy is not readily obtained. It is best to remove the armature from the motor. Hold excess at end of armature shaft in the lathe by three jaw centering chuck, turn 1/8" for a press fit and part off the excess.

When meshing gears, accuracy is essential. Center to center distance is equal to half the sum of pitch diameters of gears to be meshed.

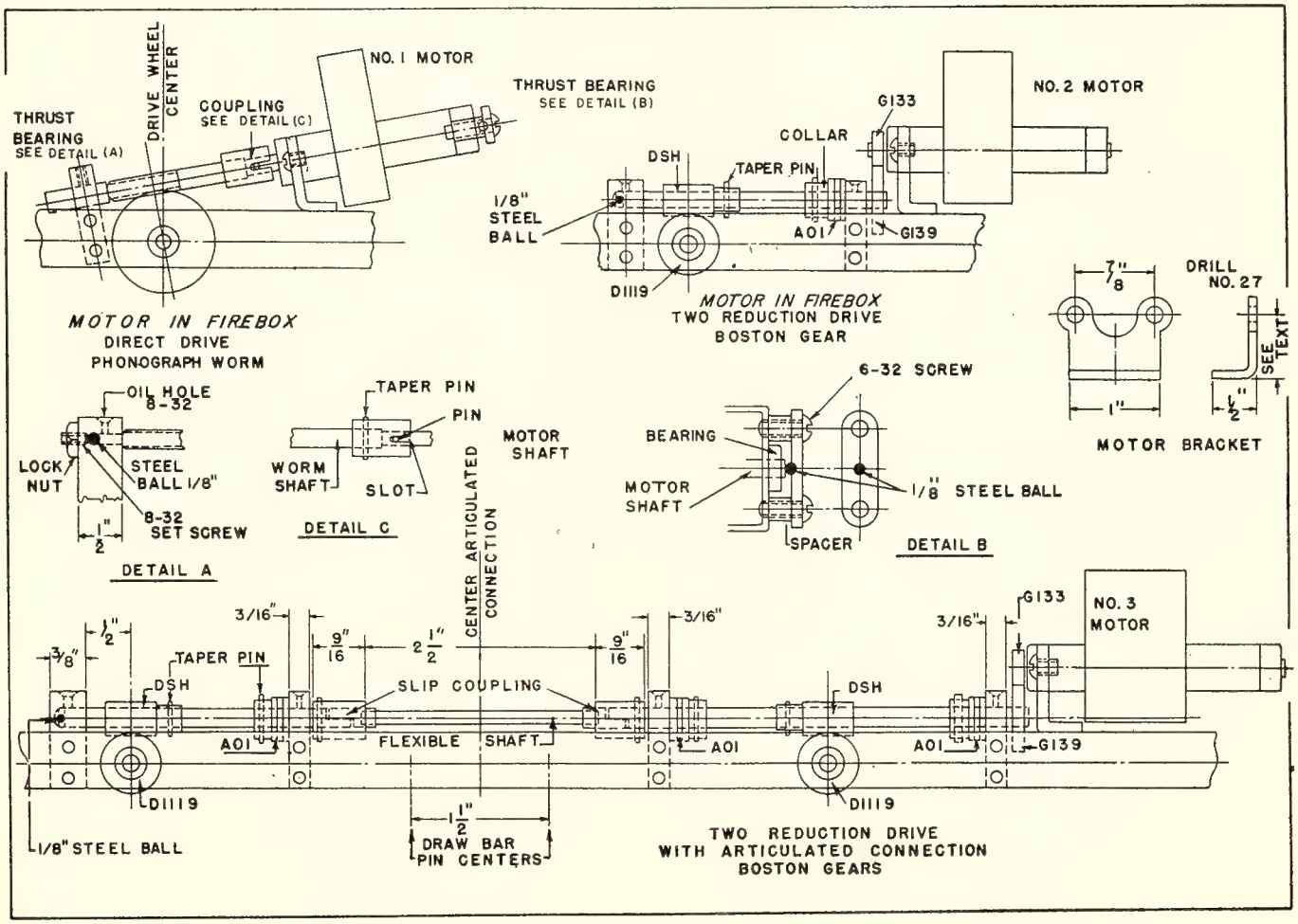
The two reduction drive with articulated connection is intended for an 0-8-8-0 mallet having 1 1/8" wheels. It can be readily adapted however, to other articulated steam locomotives and to electrics such as the GG-1 or New Haven using spur gears or chain drive between the three driving axles in each group. It may be adapted to electrics having two groups of rod connected wheels in a ridged frame. In this case, a continuous worm shaft omitting the flexible connection and consequent thrusts and bearing blocks may be used. The rear section is essentially the same as the above described, for a single set of driving wheels. This also can be adapted for tender drive where the firebox is too small to house the motor. In this particular case, the bearings will be closer together. The thrust bearings are not necessary.

Obviously, the flexible connection is all that remains to be described. Dimensions shown are recommended minimum for either articulated or tender drive. This will permit free running. I had to reduce these dimensions by roughly one third in one installation, and had trouble at one, less than standard, switch. The flexible shaft should not be difficult to obtain. It is used in dental equipment and speedometer cables. Your local junkie or hardware store handling bought up stocks would be your logical source. This comes in several sizes, so get one with a diameter of 1/8" or 5/32". This is the shaft size, the housing being about three times larger.

Remove from the housing; if necessary take off one connector and leave the other one attached. The shaft will be spring tempered and covered with oil. Pass the part to be used through a torch flame to burn out the oil. This will also soften the wire, but will not destroy it for our purpose. Clean the outer layer with fine emery just as you would polish a length of rusty steel rod. It can now be readily cut and soldered. The best method for cutting this would be to hold the loose end in a vise, using copper protectors, with the point to be cut just to clear the jaws. Hold the end out straight and saw with either a jeweler's or dentist saw.

The connectors (see plan) are made of brass sleeves pinned to ends of shafts as shown. The shaft and flexible shaft fittings are filed off slightly beyond their center lines. The fittings are drilled just large enough to receive the ends of the flexible shaft which are soldered. NOTE: The draw bar may be unfastened and flexible shaft slipped out of coupling sleeves at any time. The fittings should be a loose fit to permit lengthwise slip in curves and switches.

The chain drive previously mentioned for certain electric locomotives is also a product of Boston Gear Works. Use #1A chain, either brass or steel, and sprockets, either steel or bronze. Sprockets are available in sizes .37" P.D. up, with holes in the smaller sizes of 1/8", 3/16" and 1/4". Sizes .42" to 1.41" (large selection for our purpose have 3/16" holes). All have hubs which may be drilled for 6-32 set screws. Where more than two axles are to be chain connected use separate chain for each two axles. The hub projections are such that a worm gear and two sprockets can be mounted on one axle.



ASH HANDLER

By THOMAS LEAMING

HERE'S another addition for that engine terminal layout which started with the Coal Tower described in the Sept. issue. The Ash Handler is perhaps equally important as any other structure of an engine terminal, being a means of disposing of the locomotive's ashes into waiting hopper cars. Plans shown are adapted from the railroad's official work sheets and may at first glance appear complicated. Those of you who are familiar with blueprints can build a proper model from them, and those less skilled can get assistance from the simplified sketch and accompanying photo.

The base of this model should be formed from a block of wood covered with bristol board. Before applying the bristol, scribe it from the *back* with a sharp pencil or dull knife to simulate the marks left by the concrete form boards. The wooden base will give your model the needed weight to keep it from being top heavy.

Cement the two main I-beams on top of the block, which is the support for the rest of the structures. From the plans, these beams are 10″ wide by 24′ 8″ long with 8″ flanges. If you form each beam from three pieces of bristol board and cement, make certain they are cut out with a razor since scissors tend to curl the board too much. Allow them to dry thoroughly before handling. A much better job can be done with the use of precision shapes in wood if you are fortunate in obtaining them. Balsa wood will hardly do unless you disregard the I and L shapes of the various members.

The two tracks should be made up next. While the plan shows this to be made of two separate pieces of angle iron, it will be easier to model if the two angles are united into one channel about 10″ x 3½″. Make the flat base of the channel first, including the "switch" to the plates where the bucket goes to discharge, then add the flanges. Once the track is in place, you can add the plates (see simplified sketch) and the braces.

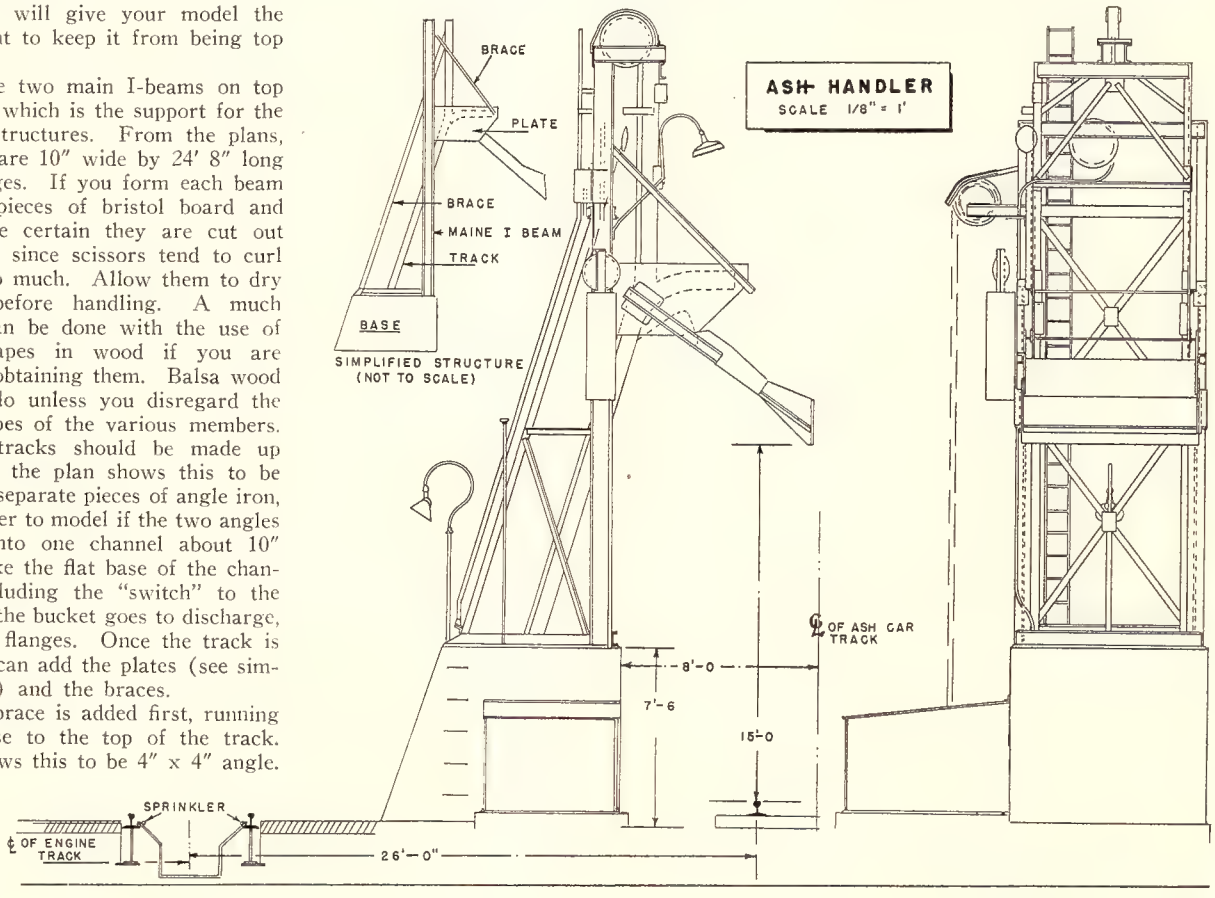
The main brace is added first, running from the base to the top of the track. The plan shows this to be 4″ x 4″ angle. You can make such an angle from bristol board by cutting it about half way through with a razor blade, severing from the main piece and then bending the angle. Dimensions for most of the other braces are given on the plans. They are not so different that one or two sizes will not suffice for all in the model. With all the bracing in, build up the chute and install.

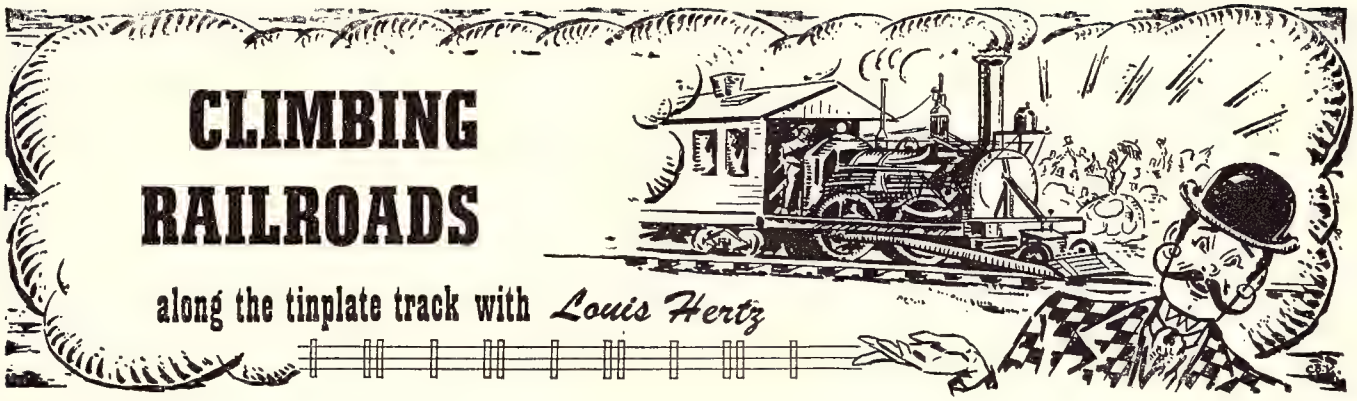
Much detail remains, but a good deal of this is entirely up to yourself. The big wheels may be simulated with wheels from toy carts, by clock or watch wheels, depending on your gauge. Of course, these may be made up specially for your job. They are all partially sheathed, so the edge need not be seen. It would not be out of place to indicate any or all of the wheels and pulleys with a complete sheathing of proper size made from bristol or wood. Ropes, counterweights, etc, must lead among the pulleys as per plan. The small hoist house adjacent to the base may be formed from bristol board. Use ladder stock for the small ladder appropriate for your gauge size or solder one up to suit in similar manner described for the coal tower. Lamps are pieces of shaped wire with a disc of bristol board or metal at the end and a bead glued in place for the bulb.

Now for the most realistic details that will add life to your layout—the hole between the rails for dumping the ashes! This can be either an actual opening between the rails with those tell-tale ashes spread about, or simply an area either painted or ash-filled to give the desired effect. The concrete top of the ash-conveyor subway shows between the track and at the base of the handler. The outline of the ash conveyer or skip has been omitted since it is usually under the ground level.

In order to simplify the painting of this model, we suggest using gray bristol board for the base and black bristol for the superstructure. The raw edges of the black bristol will show white where it has been cut or creased, but rather than being objectionable, these white lines serve to emphasize the lines of the structure.

Set the ash handler in place by your engine terminal track, with another track in back of it for the ash car. This track can also be the one used for taking coal to the tower and sand to the sand house.





CLIMBING RAILROADS

along the tinplate track with *Louis Hertz*

LOOKING through old tinplate catalogs is always a fascinating experience, and the older they may be, the more rewarding the inspection. Something new will always catch the eye, despite the number of times you should thumb through the pages.

Catalog collecting is becoming a most popular and widespread hobby, having an automatic appeal to anyone who happens to obtain some current tinplate catalogs and realizes that they appear annually. These catalogs are preserved as they appear, until the owner becomes more interested and decides to work backwards and collect earlier issues. A visit to local stores and personal contacts among friends may bring out a few copies, and then the next step is to start advertising. To his surprise, he finds there are dozens of others advertising in hobby publications for the same thing and learns that he is participating in a very extensive hobby. We receive a number of letters from such collectors who note they didn't realize anyone else shared their interest in old trains and catalogs until one day they "happened to see a copy of MODEL CRAFTSMAN."

We are frequently asked how many catalog collectors there actually are at present. Frankly, we would not hazard a guess for it is impossible to obtain any sort of accurate figure, the number being so large. We do know, however, that there are thousands of collectors of old tinplate catalogs with the number rapidly increasing.

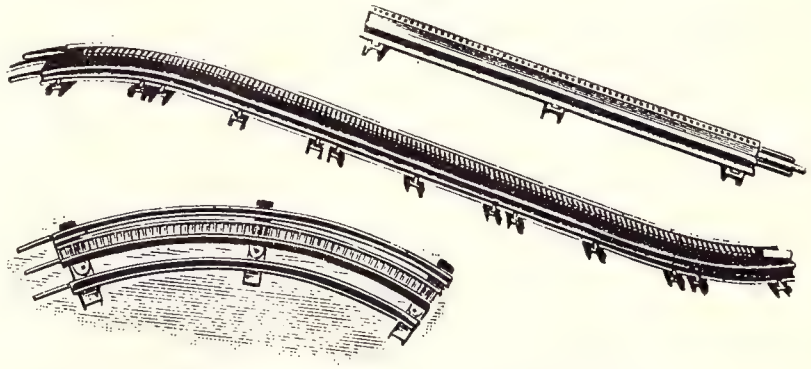
In connection with this, we would like to make a suggestion to our scale model friends. They might well find collecting and preserving the early issues of the catalogs of scale model manufacturers a very interesting and worthwhile project. Scale model work, particularly in the early days, included a great deal of special and custom work, and models and products were not standardized. Nevertheless, from a purely historical standpoint, the old catalogs should be preserved. These older scale catalogs, from the 1920's and 1930's are still around in fair quantities, but they are not common and will grow scarcer with each passing year.

Going through some old tinplate catalogs, particularly those issued in early 1900, we find ourselves too prone to classify unusual types of models which were then standard articles as "oddities," simply because they are not familiar to us today.

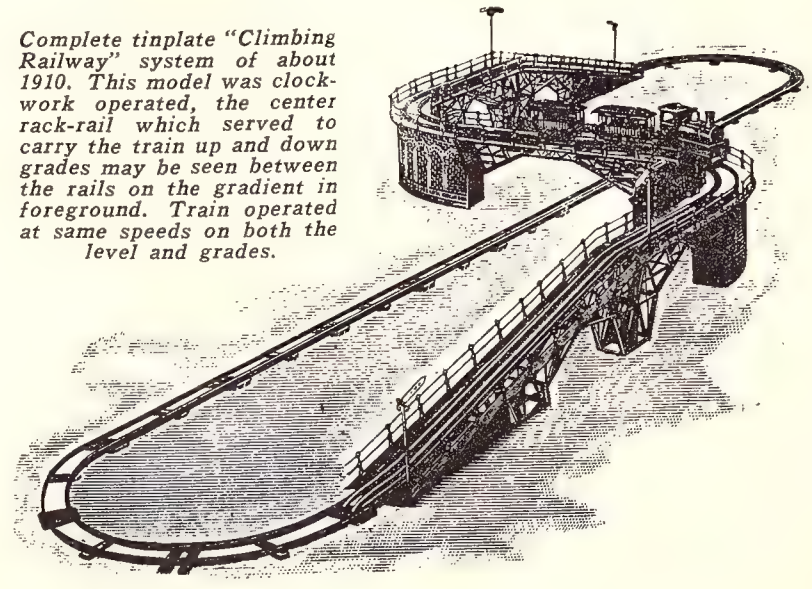
We cannot deny that the old catalogs list many items which are of special interest to us because of their unique conception or design. We have mentioned a number of these in the past—switches and signals worked by compressed air, elevated railroads, etc. The models pictured here might also come under the heading of "oddities," for they are certainly strange and unusual by modern standards, and all the more fascinating for it.

It should be noted, however, that these were not "oddities" in the years they were made (and they were made over a considerable period of years), but rather standard items of tinplate manufacture, offered for those who wished to own a model of a particular type railroad—a working rack-rail miniature railroad. They were, of course, featured as "novelties" in that they were singularly ingenious and attractive models, but not as "novelties" in the sense that they were briefly made in an effort to attract purchasers purely through their oddity.

The illustrations rather eloquently tell the story of these interesting models



Three standard types of rack-rail track sections which permitted construction of any desired mountain layout. Grades as steep as 33⅓% could be climbed by model locomotives using this track.



Complete tinplate "Climbing Railway" system of about 1910. This model was clockwork operated, the center rack-rail which served to carry the train up and down grades may be seen between the rails on the gradient in foreground. Train operated at same speeds on both the level and grades.

which were made in both clockwork and electric, O and No. 1 gauge. They were manufactured by Maerklin, and were known as "mountain" or "climbing" railways, more frequently by the latter term. The hauling units were actually working tinplate rack rail locomotives, made in both steam and electric outline, although only steam types are pictured here. Each locomotive was fitted with one or two cog wheels to engage the metal rack between the rails. On the electric locomotives, these cogs were insulated with solid fibre centers.

Both the electric and clockwork locomotives were tremendously geared down, some of the electrics having as many as four intermediate gears between the armature pinion and the drive gear. Result was that the clockwork trains could overcome a 25% grade and the electrics a 33⅓% grade!

Maerklin, incidentally, continued to make rack rail railroads into the 1930's, but the later models are mere effete shadows of their predecessors of the years around 1910.

"The ingenious mind of railway constructors," read a catalog description around that date, "not content to build trains of all kinds and systems for level traffic, has even thought to lay a path through rocks and mountains and, in the central rack-rail, has discovered the means to successfully overcome all steeps and gradients."

"Our mountain climbing railways are an exact and true reproduction of the very best tracks ever built, and together without mountain-landscapes of beautiful artistic relief, they offer all the characteristic features of a real mountain railway."

"Buyers who cannot afford the expense of acquiring such a mountain landscape may construct a foundation of climbing railway themselves, or use our system of movable pillars No. 2320 (page 18 of our catalog)."

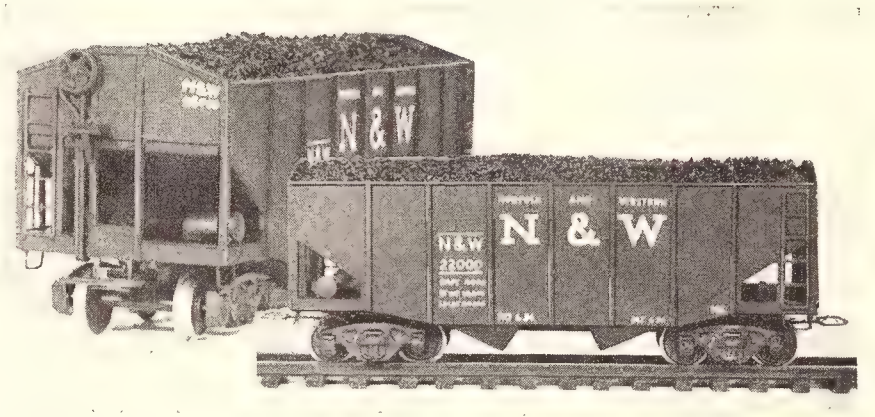
"The rails of climbing railways are made to be directly inserted into ordinary rails, and the engine will run with the same speed, uphill and downhill on central rack-rails as on level with ordinary rails."

The "landscapes of beautiful artistic relief" were completely finished mountain systems, with scenery, trees, accessories, and several tunnels through which the train would climb, appear and disappear with fascinating regularity. Some of these were even made completely covered with snow, to represent the top of a high Alpine peak.

Between such elaborate scenic pieces, and the plain elevating and gradient pillars mentioned, were such viaduct systems

(*Continued on page 56*)

N&W HOPPER CAR



By LEWIS AUSTIN

NORFOLK and Western Hopper cars differ slightly from the conventional hopper for their ends are shaped to permit higher loads. Chesapeake and Ohio also use this type end on both their hoppers and gondolas.

This particular model is constructed of wood and bristol board. In order to support the bristol board sides and prevent them from buckling, the body is built around a white pine block. This makes it necessary to load the car with dummy load. If you should prefer to have an empty hopper for your pike, it would be better to build the body from sheet brass following the method described in Jan. 1945 MC. Construction of a sheet brass body is similar to the bristol board and wood construction, so these drawings can be used for either method.

Start the construction by shaping the body block from white pine. The dotted lines on the drawing of the side template show the shape of this block. Make the ends square for the appearance of the finished car will depend on how well the body block has been shaped.

The car sides are next cut from bristol to the shape given in the plans. Before cutting to shape, it is best to make the cutouts at the ends of the sides. The strips at the ends are thin and you may cut through them when cutting out the openings. Use a sharp razor blade when cutting the bristol, for a dull blade will leave fuzzy edges on the openings.

Rivet detail is not put on the bristol sides for bristol board is too heavy for this. Instead, cut two more sides out of index card or any card about the thickness of a penny postal card. The rivets are then embossed in the thin sides with a blunted pin or scriber. It is necessary for the tool to be blunt for a sharp tool will only cut through and leave a hole. When this detail is completed, cement the thin sides to the bristol sides and put them aside for the present.

The car ends are cut out of bristol in the same way as the sides with the exception of the rivet detail. Rivets are embossed on a narrow strip of card and the strip cemented along the outside edges of the car ends as shown. Two vertical strips in the center of the car ends are cut from bristol and also cemented in place.

Before cementing the sides and ends to the body block, it is best to do a little work on the underframe. The center beam is made from white pine and cut to the same length as the car sides. Note that the ends of the center beam have steps cut in them to accommodate the automatic coupler pockets. This step is also necessary if you intend to use dummy couplers. The step brings the couplers to the correct height from the rails. The cross beams or body bolsters are next made from white pine and notched to fit the center beam. The length of the bolsters should be the same as the width of the body block.

A ¼" wide slot should be cut and filed in the body block to fit the center beam. When the slot is finished, cement the center beam and bolsters in place. Sides and ends can then be cemented to the body block. Cement the sides in place first, and then cement a strip of ⅛" square pine across the ends of the center beam. These pieces will serve as the end beams. Four short pieces of ⅛" square pine are also cut and fitted along the sides of the car. The perspective view of the car body clearly shows these pieces. Note that they just fit between the end beam and body bolster on each end of the body. The bristol ends can now be cemented in place and the corners of the car body finished off nicely with fine sandpaper. Cut the four diagonal braces for the underframe and cement in position.

Side braces on the car sides are made from strips of bristol board, slightly over 1/32" wide. Cement in place and trim even with the top and bottom edges of the car sides. Now make up the flange along the top edges of the car sides, also of bristol. Note that the car ends do not have the flange on their top edges as is the case with conventional hopper car ends.

The hoppers are cut and sanded to shape from white pine and cemented in place on the body underside. Make certain the angles of the hoppers blend with the angles on the ends of the body block. As seen on the drawing, there are two small pine blocks, one on either end of the center beam. These are cemented in place to make the ends of the center beam

thick enough to hold the wood screws used in fastening the couplers. After cementing these in position, you can mount the couplers. You may have to file roughly 1/16" off the ends of the coupler shanks to prevent their interfering with the mounting of the trucks. This however, will not interfere with the proper working of the couplers. Just make certain the shanks are left long enough so they can rest on the back ends of the coupler pocket. If dummy couplers are to be used, make the coupler pockets out of 1/32" thick sheet brass and screw them in place on the ends of the center beam. Dummy couplers are also mounted with small wood screws.

Trucks are purchased at the hobby store. On this model, trucks with a high bolster were used, but 1/16" was filed from the top of the bolster to bring the couplers to the correct height from the rails. Mount the trucks with a washer between each truck and underframe so they will swing freely.

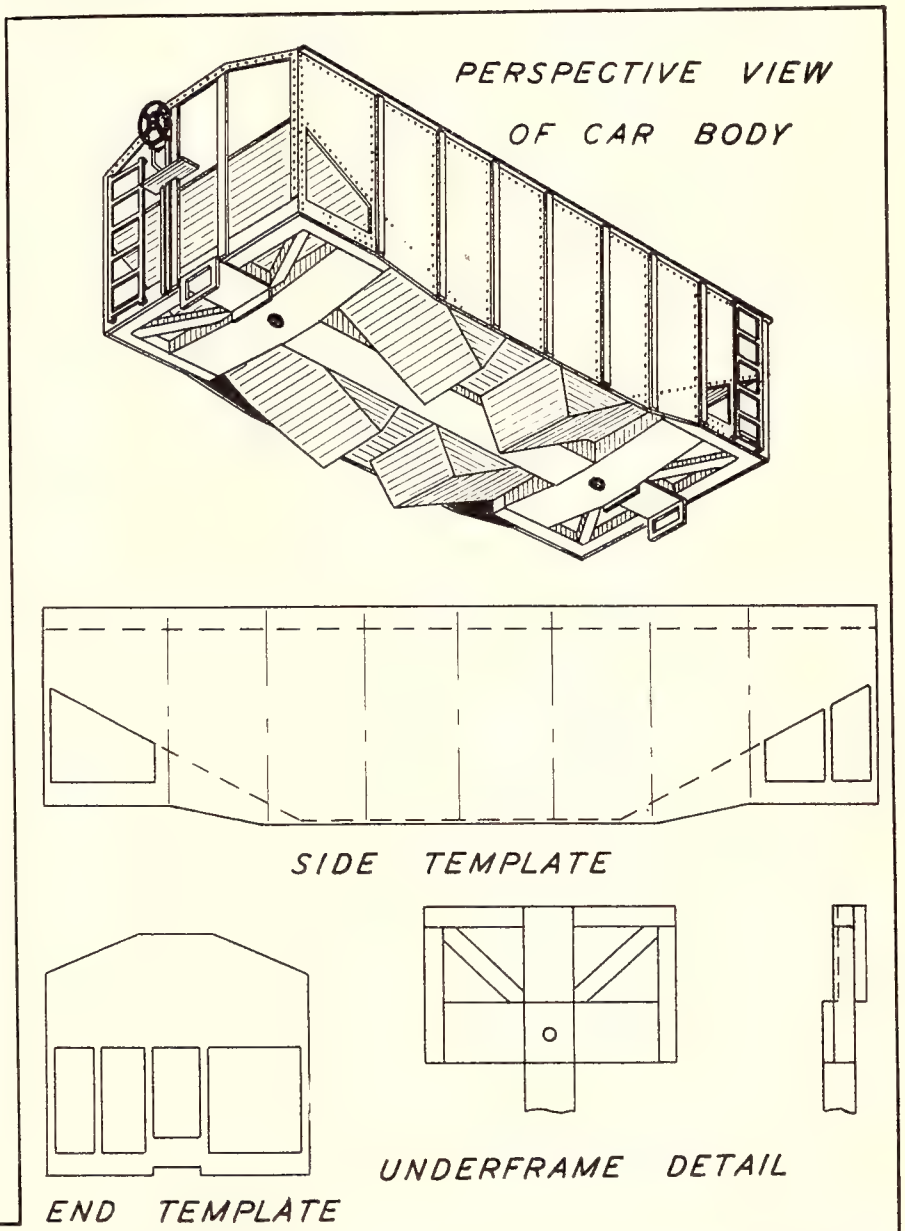
Bend four steps from thin wire and push them into holes in the four corners of the underframe. Use a fine sewing needle in a pin vise to push these tiny holes in the wood parts. When the steps are in place, apply some cement to secure them.

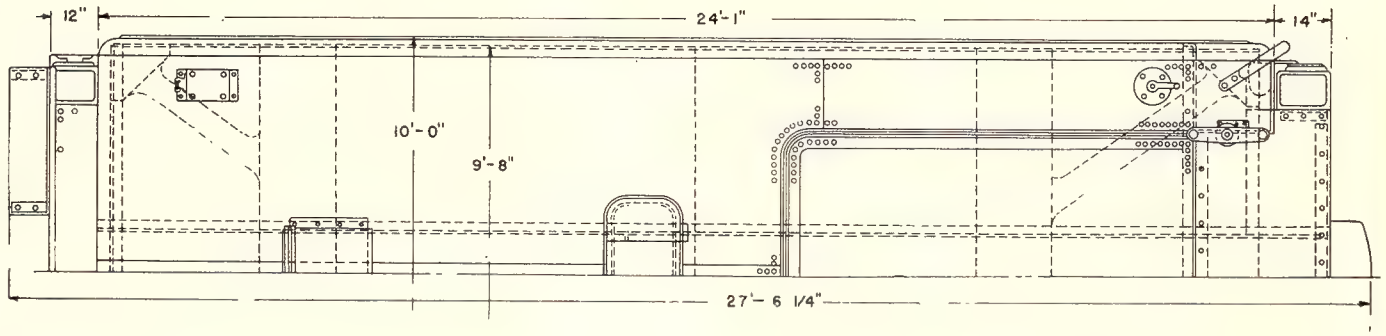
The brake platform is cut from bristol and cemented in place. The brake wheel shaft and air line pipe pass through the platform, so it will be best to drill two holes in the platform before cutting it out. The Ajax brake wheel housing is cut from wood and cemented in place. Brake wheel is held in place with a small pin. Bend the brake wheel shaft and air line pipe out of wire and mount in place. The ends of these two wires should be bent up and pushed into the underframe.

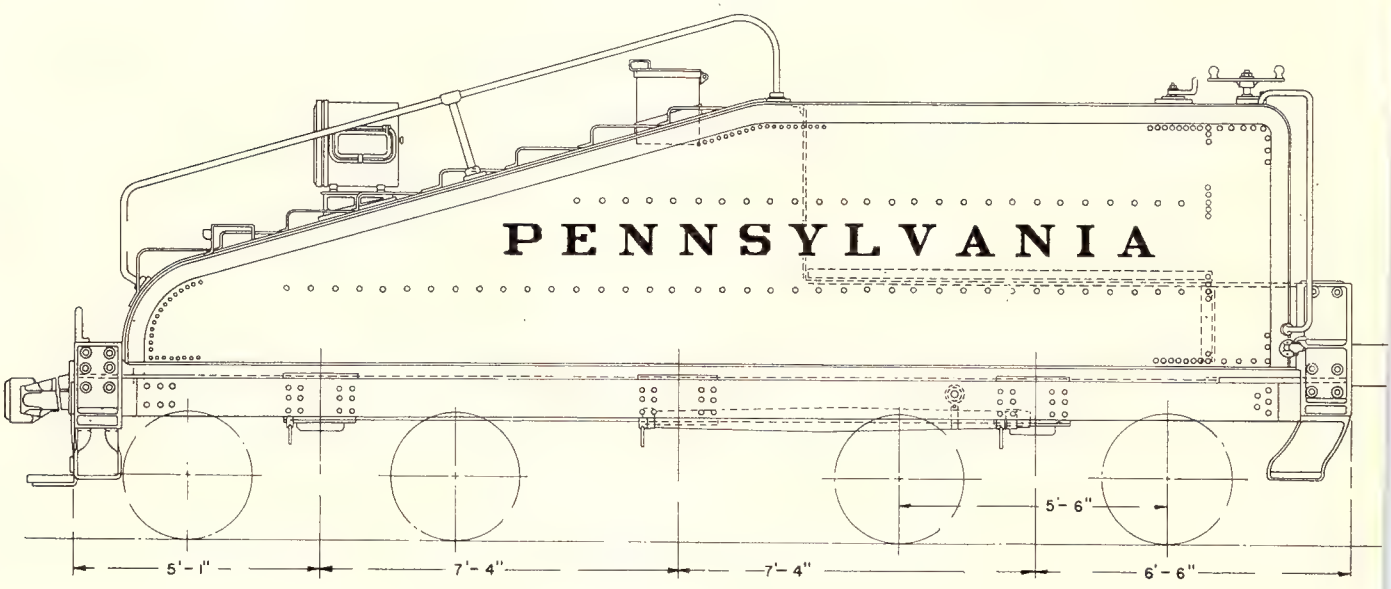
Hopper cars are generally equipped with grab irons instead of ladders. However, grab irons are hard to mount securely on bristol board and so brass ladder strip was used instead. On a model made from sheet brass, grab irons can be securely soldered in place. Ladder strip is mounted on the car sides by cutting it longer than necessary and then bending over the ends and pushing them into the car body. Never mount the ladder flat against the sides. Leave a little space between car side and ladder.

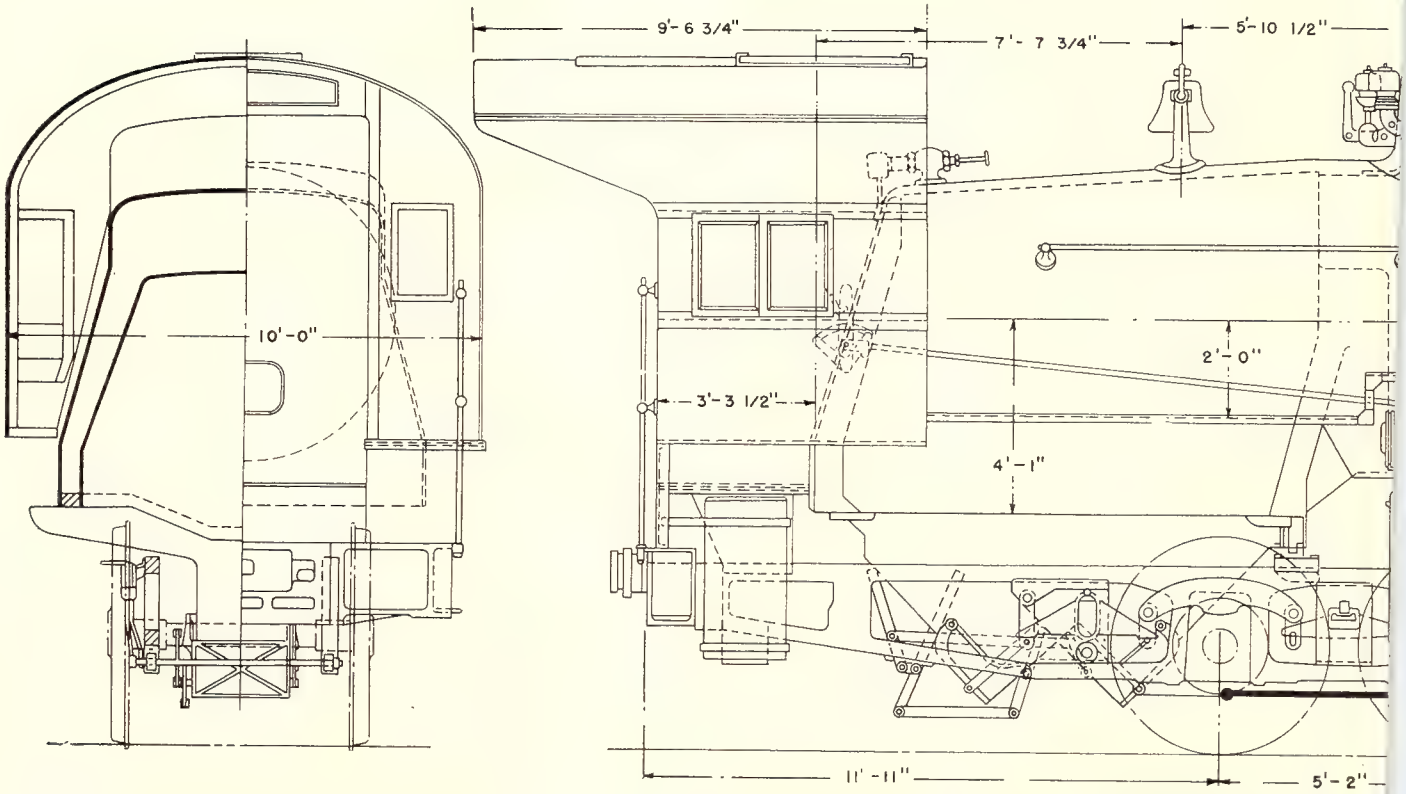
The dummy load is made from gravel similar to that used in canary cages. Put the gravel in the car and pour some thinned cement over it. After the cement has dried, the gravel can be painted black. Use gloss paint on the gravel and paint the car body a flat black. This will give the model a neat appearance and actually give it the effect of being loaded with real black diamonds.

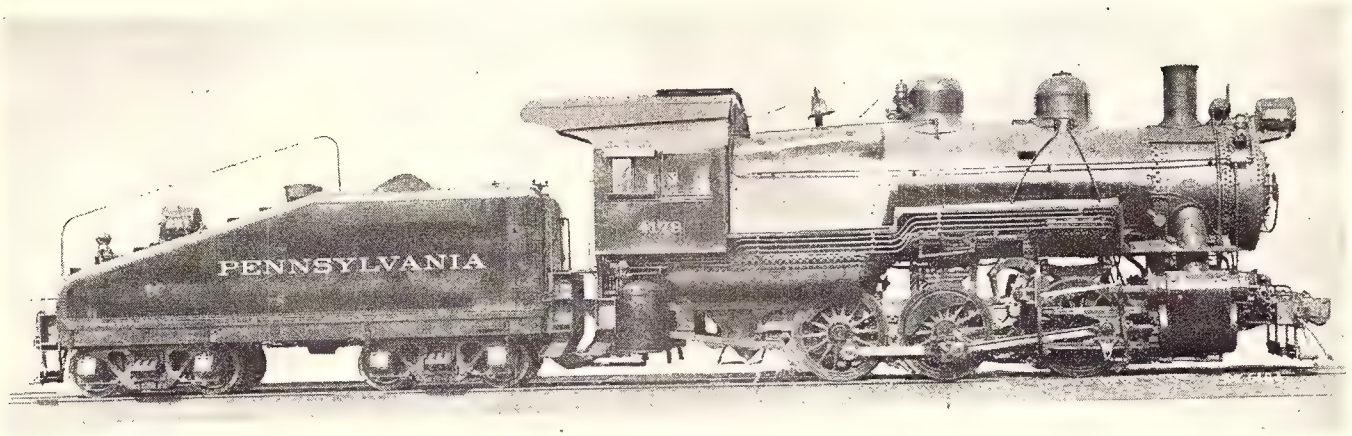
With the car completely painted, all that remains is the lettering job either done by hand or with the use of decals. This model was hand-lettered in pearl gray paint and the entire car body given a coat of flat varnish. This protects the lettering when the car is handled. You will also be wise to do the same if you use decals for the flat varnish will help prevent the decals from peeling.

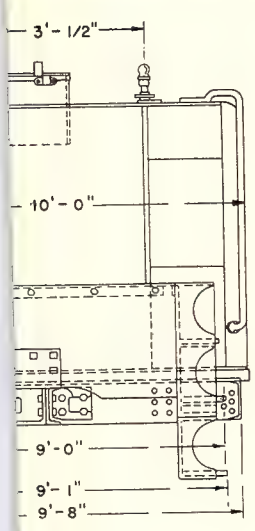



12"
24'-1"
14"
10'-0"
9'-8"
27'-6 1/4"


PENNSYLVANIA
5'-6"
5'-1"
7'-4"
7'-4"
6'-6"

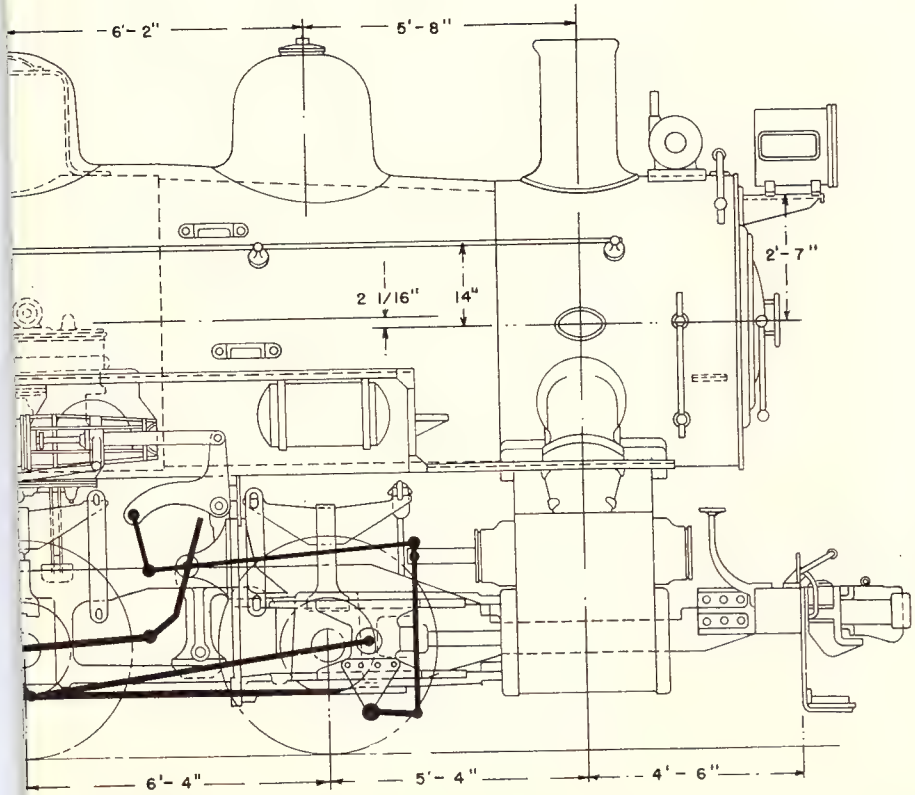

9'-6 3/4"
7'-7 3/4"
5'-10 1/2"
10'-0"
2'-0"
3'-3 1/2"
4'-1"
11'-11"
5'-2"

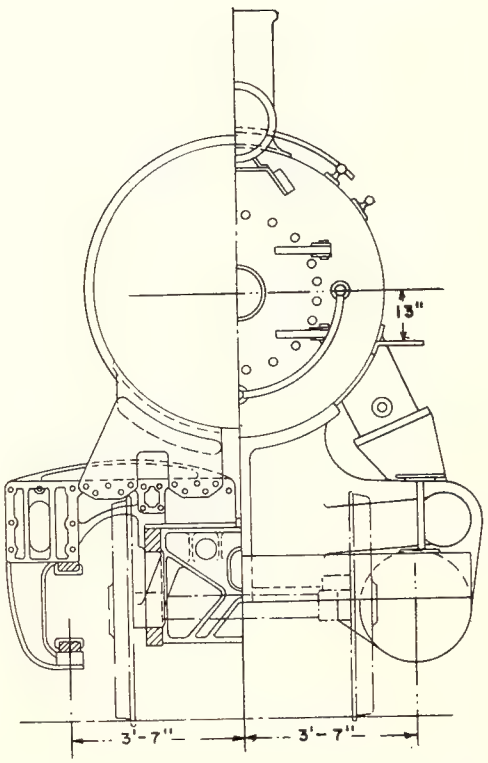


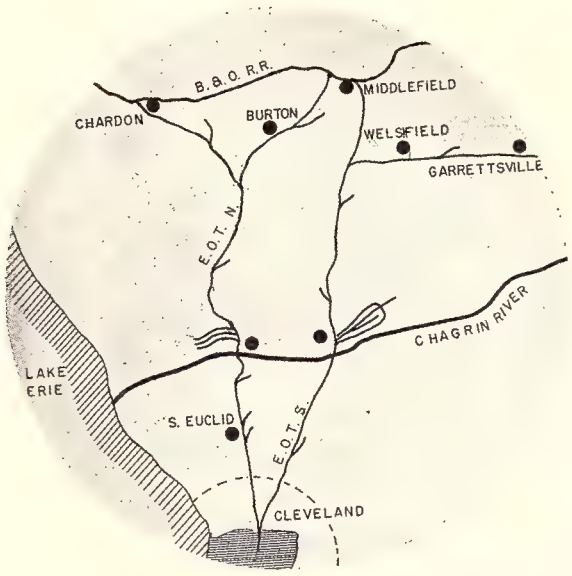


PENNSYLVANIA SWITCHER

SCALE 1/4" = 1' ....







MODELING THE EASTERN OHIO TRACTION INTERURBANS

By LEONARD E. NOON

THE prime years of the electric interurban flared into power during the years of 1900 to 1930. So it was with the Eastern Ohio Traction whose development and growth came and went in a quarter of a century. Twenty-one years have passed since the single bands of iron stretched across the rugged countryside for a distance of ninety-three miles. Heavy wooden and steel cars brought the country to the city and the two grew steadily.

E.O.T. rails were laid a few miles south of the shores of Lake Erie eastward from Cleveland's Public Square. Daily service to such towns as Gates Mills, Chagrin Falls, Chardon, Burton, Middlefield, Hiram and Garrettsville was part of the regular schedule. Connecting with the E.O.T. lines was the B & O RR. at Chardon and Middlefield where large merchandise orders came through almost daily. Passengers enjoyed the convenience of direct connections with interurbans of other cities. Ohio roads such as the Lake Shore Electric, Cleveland and Southwestern, Northern Ohio Traction and the Cleveland-Painesville-Ashtabula line were all available. E.O.T. freight and milk cars junctioned with cars of other lines in transporting goods throughout the midwest in an electric package service of that period. (for history of E.O.T., see March, 1946 Railroad Magazine.)

Many model railroaders enjoy designing layouts on their own drawing boards. A map of Ohio 1903-1910 will be helpful in planning the E.O.T. layout. There are no available blueprints or plans on the design of these cars to my knowledge so we must resort to photos and the memories of the old timers who kept the cars running during this period. This material has not been scaled to any existing gauge but can be readily adapted to any gauge desired.

Costs of building such models as described are reasonable, the motive power being the most expensive item. Many suggestions have been made for constructing homemade power plants, however purchased power trucks seem to fit in very nicely.

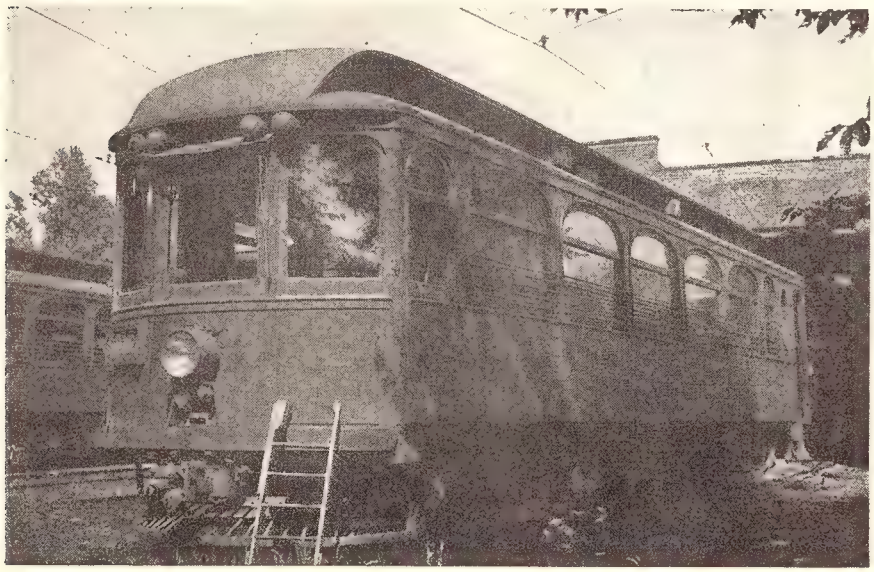
Trailing trucks should be like the power trucks, identical in design. The prototype used larger diameter wheels than the usual city street cars but this may be difficult to duplicate. The body however, rode quite high from the tracks so the effect of raising the body on the trucks will help overcome this.

The following procedure and technique is based on simple yet practical model construction. Thoroughness, material and ingenuity will depend on the builder to a great extent. We are perhaps more fortunate than any other group of model enthusiasts since we have much more control over our creations. This consolation should stimulate careful construction and accurate detail worthy of any pike.

The variety of cars bought during the years of operation were of several types and makes. It is said by some old timers that such makes as Kuhlman, Brill, Niles, St. Louis and Jewett held the tracks at various times. The majority of cars sported the monitor style or clerestory roof but there were two large steel cars with the arch roof design, No. 56 and No. 57 considered the pride of the line. Since the monitors were so numerous, we shall focus our attention on that design. While many of them were largely the wooden type, there were several with steel ends and sides.

These cars were patterned closely after the railroad coaches of 1895. The size varied as to design but the average length of 45 feet for the six large double window monitors predominated. Some of the steel monitors averaged 50 and the arch roof cars ran close to 55 feet.

Before getting into the midst of construction, look into available material on hand. Cardboard, bristol board, wood, brass, wire, cement, under detail accessories, power truck, light sockets, decals



No. 52 in the barns at Gates Mills—window cleaning time prior to trip into Cleveland. Note details.

DATA

Eastern Ohio Traction Car #53
(half steel, half wood)
Height: 7'3" to edge of roof (add 18" for roof)
Length: 45'. Width: 9'6"
Six large windows (double seating)
Windows are 5'5" long, 47" top to bottom
Window height of arch section 18" (included in 47")
Five back windows 18" wide, 44" high
One center front window 37" wide, 44" high
Two side front windows 29" wide, 44" high
Three doors 6'6" high, 26" wide
Metal siding is 34" high to window sills

and window material should be procured before starting if at all possible. The average builder can usually recognize workable material when he sees it and his own conception of appearance will guide him safely to success.

MOTIVE POWER

Today's market offers a number of very suitable worm gear drive and chain drive power trucks. The power truck for a model interurban must not be too large as space area is limited. Those of you who don't have the facilities for shop work, these commercial trucks are ideal. A small investment in several such motors soon pays for itself by the pleasure derived from their long life and smooth performance. Consider which current you plan to use, either AC or DC, before starting in with your model. Also give consideration to type of power trucks to be used. Power units come in various shapes and designs necessitating cutting the floor in various sections. One truck, soon to be marketed, has been designed to fit under the floor similar to the prototype which is a boon to modelers.

FLOOR CONSTRUCTION

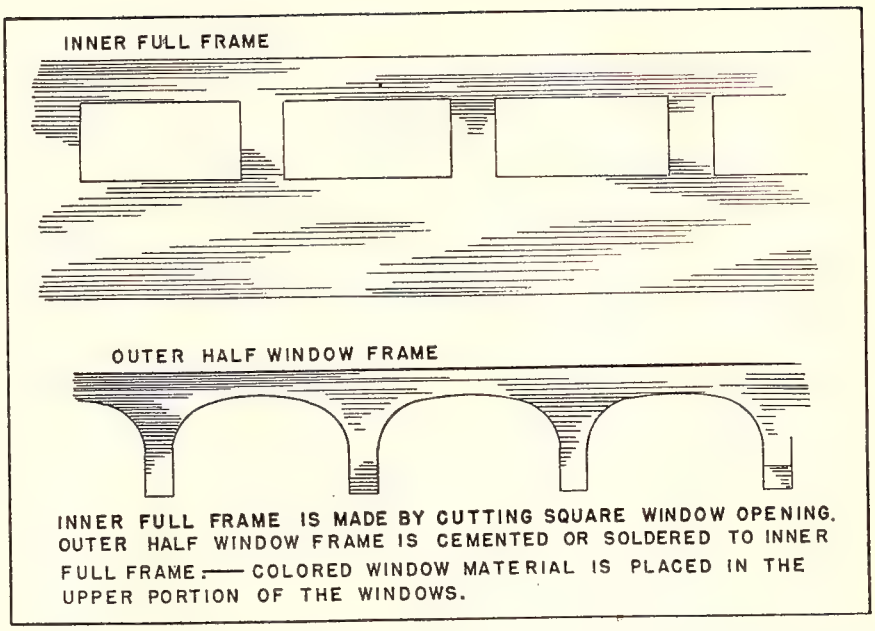
A piece of white pine of reasonable thickness is used for the floor. A square opening or section is removed from the front or rear for fitting the power truck. (brass can also be used for the floor) This removed section must be large enough to facilitate proper movement of the power truck and not cause any binding, if you are using the type with vertical motor mechanism. At times, when using commercial power trucks, it will be necessary to develop a bracket or plate to secure the motor firmly. Ends of the floor must be cut or shaped to the curvature or design of the front and rear end sections, door recesses are filed in their proper places.

A king pin hole is drilled in the opposite end from the power truck in the floor for the installation of the non-power truck, if a one motor unit is to be used. Several holes must be drilled in the floor to accommodate the power-carrying wires from the motor to the point in the interurban where they will make connection with the trolley pole lead-in wire.

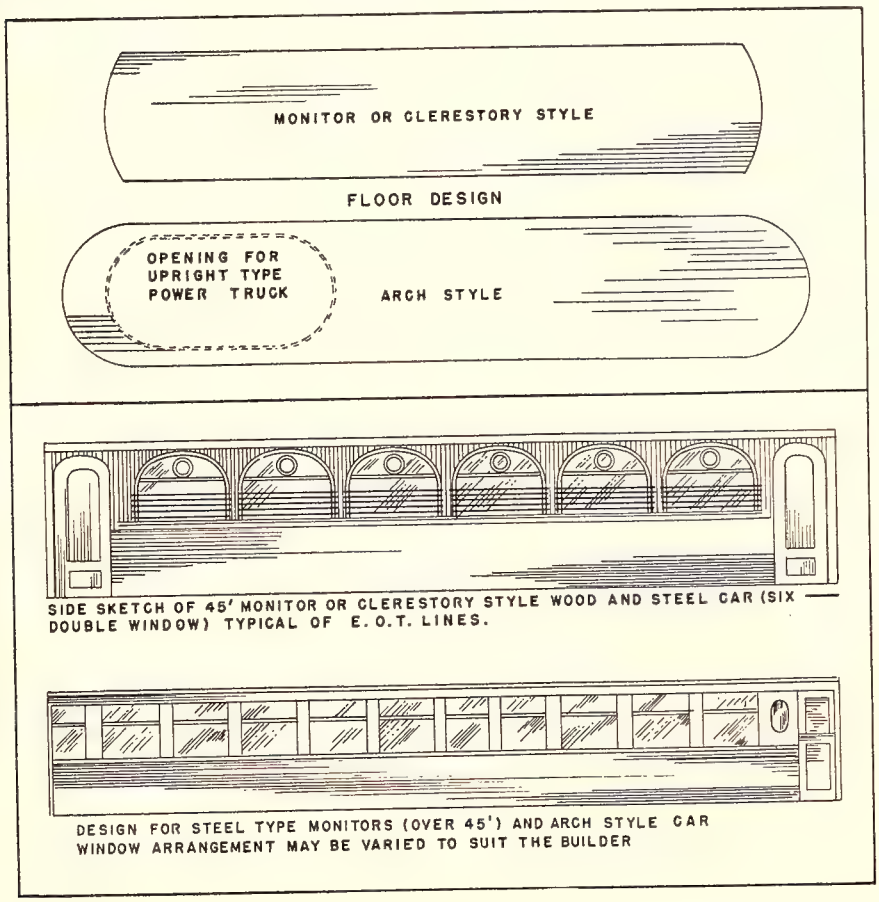
All work under the car or floor should be done while it is still possible to maneuver that section around easily. Two tiny hooks or loops made from wire should be installed by drilling and cementing in place. These hooks will be placed at the front of the rear truck and at the rear of the front truck so we may connect small chains to them to secure the trucks from completely revolving around their king pins. Detail usually found on interurban undersides can be duplicated with odds and ends, such as sand boxes, resistors, etc.

Small castings can be purchased for a matter of a few cents. Castings of clean sharp detail are sold and add greatly to the finished look. Air pumps, generators, platform steps, jeweled lights, couplers and ventilators make up some of the available items that try the patience of the builder.

Truss rods made of wire are bent to shape and may be cemented to the floor if holes are first drilled to receive a small section of the wire at each end. Usually two small braces of the same metal are cemented to the floor and connected near the center to act as supports for the main truss rod. They are positioned so as to balance the outlook of the rods.



INNER FULL FRAME IS MADE BY CUTTING SQUARE WINDOW OPENING. OUTER HALF WINDOW FRAME IS CEMENTED OR SOLDERED TO INNER FULL FRAME.— COLORED WINDOW MATERIAL IS PLACED IN THE UPPER PORTION OF THE WINDOWS.



SIDE SKETCH OF 45' MONITOR OR CLERESTORY STYLE WOOD AND STEEL CAR (SIX — DOUBLE WINDOW) TYPICAL OF E.O.T. LINES.

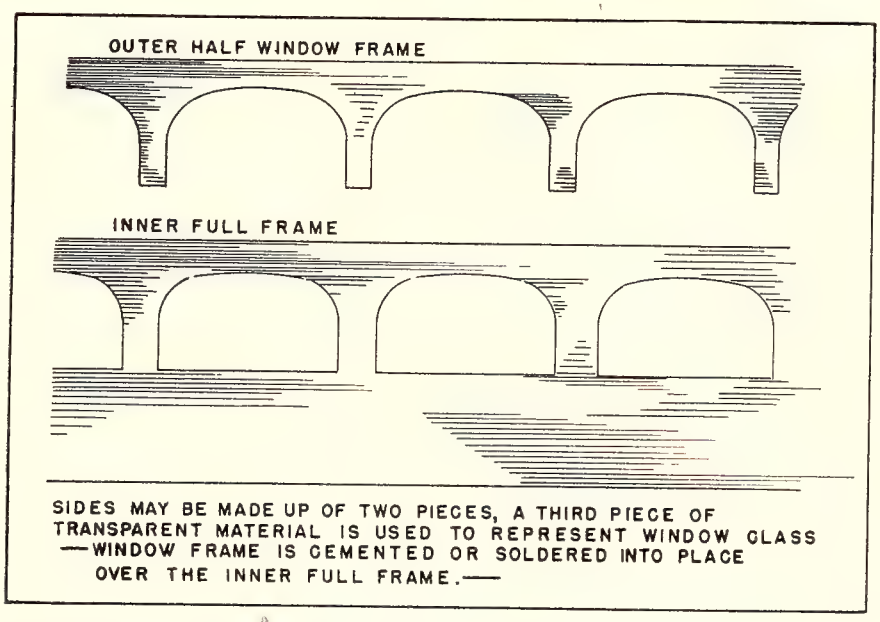
DESIGN FOR STEEL TYPE MONITORS (OVER 45') AND ARCH STYLE CAR WINDOW ARRANGEMENT MAY BE VARIED TO SUIT THE BUILDER

INTERURBAN SIDES

Building the body of an interurban is not as difficult as most of us imagine. Constructing the side sections seem to create more discouragement than any other detail. Various window arrangements and door structure are sometimes trying to many modelers. This can be ironed out with a little patience.

For these reasons many railroaders prefer to purchase ready stamped sides. There are some well detailed sides on the market that may be remodeled to the heart's desire. Sheet copper or brass is one of the best materials for car side sections. This type material will prove to be more than a one evening project, results however, are most gratifying.

Once the art of soldering is mastered it simplifies the work of assembling the various parts of the side section. A small alcohol torch will help to create a neat soldering job. Lead solder when prop-


OUTER HALF WINDOW FRAME
INNER FULL FRAME
SIDES MAY BE MADE UP OF TWO PIECES, A THIRD PIECE OF TRANSPARENT MATERIAL IS USED TO REPRESENT WINDOW GLASS —WINDOW FRAME IS CEMENTED OR SOLDERED INTO PLACE OVER THE INNER FULL FRAME.—

erly applied should look similar to a coating of silver or aluminum paint. Large lumps of frozen solder do not assure a good weld and distracts from the finished model. Excess solder should always be removed by filing or sanding until it becomes a seamless joint.

The following suggestions for building car sides will work well with brass, copper, card or bristol board. It is not necessary to use metal to simulate steel siding. A careful paint job and flawless lines will duplicate the metal very closely. If card or bristol board is used, an extra measure should be taken to safeguard success. A small amount of experimenting on several varieties of bristol board, cardboard, fibre board, wood or plastic will reveal the proper kind for use as sides. I have found certain kinds of cardboard to be satisfactory when it comes to cutting out window openings with scissors; other varieties have proven too

Study of a five window rear of car #53 monitor or clerestory style, after line abandoned—45 ft. semi-steel car.

stiff and cracked, causing a rupture of the fibers. Bear in mind, however, that too thin cardboard will not present an attractive looking car nor can we depend on it to keep smooth and straight. Brushing or spraying a coat of lacquer on card or bristol helps seal the fibers. Model makers knives are ideal for cutting window and door openings.

A simple method of speeding the drawing of arched or square windows accurately is to cut out a template or a pattern of cardboard or metal and trace it on the material used for the side. This pattern can be used repeatedly. Panelling the doors, recessing the windows and proper placement of molding greatly builds up the model to resemble the prototype.

Diagrams of the side sections are drawn to the desired scale on the material to be used. (see photos and drawings for details). Each finished section will be composed of three major pieces (A) outer half frame (B) clear window material (C) inner full frame. After the three pieces are cut to size from the diagram, they are soldered or cemented into one unit. If using brass or copper, isinglass will make an ideal window material. Remember, many cars used stained or frosted glass in the upper section of the windows. This factor should be taken into consideration at this point. Celluloid, heavy cellophane or clear plastic serves well as window material and also as a reinforcing agent.

Doors are made separately and fastened into their respective places before the final paint job. Safety rules on most roads usually called for two doors in the rear and one on the right side in the front end. Paneling the doors are made by cutting out sections and replacing a piece on the under side with either solder or cement.

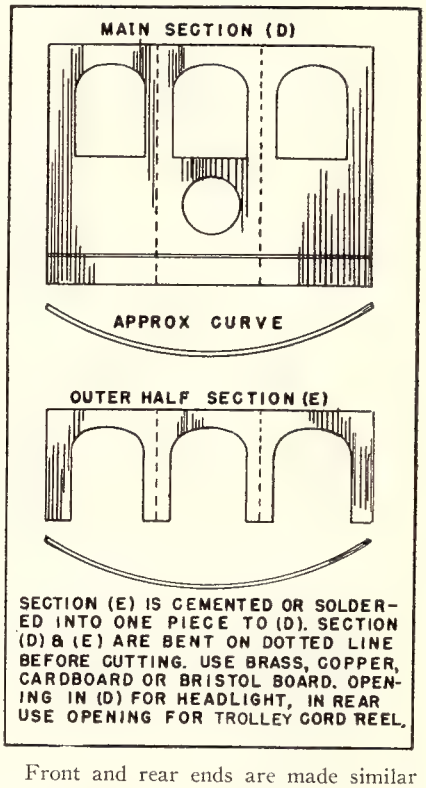
In building the sides, give consideration to doors, windows and molding. To construct an interurban to such a degree that it possesses the proper perspective is very important. The above method provides depth to the model. On the outside, a strip running the length of the body is cemented just below the windows to form a sill. Apply cement carefully as many a fine model has been ruined by the scarred-up features of excessive cement that oozed from its place during construction.

Rounded window designs used on the upper portion of some cars are more difficult to produce than the usual square or straight windows. Finished models of the rounded window style are very neat and create a fine looking interurban for any pike.

Spraying lacquers and paints on a model greatly improves the finished creation but very nice work can be done with a brush providing a little care is used in application. If scribing is necessary, it should be done before painting, although excess paint will fill the scribe markings. A prime coat will also greatly improve the finished job.

END PIECES

There are a number of methods for building front or rear sections of interurbans, from carving to casting, from fiber board, cardboard or plastic, each have advantages of their own. My standby is metal, particularly favored is fairly soft sheet copper. One reason for this is just in case of a cornfield meet which happens even on the best of protected runs. Failure of just some little unseen incident at the time, may result in two cars on the same track high trailing for destruction or damage.


MAIN SECTION (D)
APPROX CURVE
OUTER HALF SECTION (E)
SECTION (E) IS CEMENTED OR SOLDERED INTO ONE PIECE TO (D). SECTION (D) & (E) ARE BENT ON DOTTED LINE BEFORE CUTTING. USE BRASS, COPPER, CARDBOARD OR BRISTOL BOARD. OPENING IN (D) FOR HEADLIGHT, IN REAR USE OPENING FOR TROLLEY CORD REEL.

Front and rear ends are made similar to side sections in detail. Various designs were used in the prototype. The majority of the monitor or clerestory style cars of the E.O.T. sported three windows in the front and three in the rear. Several cars however, boasted a five window rear and the usual three window front. Two arch type cars No. 56 and No. 57 (Kuhlman and St. Louis) were built with a four window front and rear. Careful study of photographs reveal many hidden details. In constructing the end pieces, reference pictures should always be close at hand.

Card or bristol board may be substituted for constructing the end pieces. Window outlines are scored or pencilled on the material and the openings re-

moved by cutting, drilling or filing. To gain proper depth and perspective that windows require, it is necessary to cut shorter sections of material similar to the first but slightly overlapping around the windows (see drawing).

As monitors are slightly rounded in front and rear, shape the material before any cutting is attempted. Arch roof cars are quite rounded so they also should be shaped before window work is started. With all cutting complete, assemble the two pieces with solder or cement.

Three or four small holes are drilled in the end sections near the bottom of each. This enables the builder to fasten the end pieces to the floor. Straight pins cut short will make ideal fasteners, a small amount of cement helping to weld the unit into a strong assembly.

Before final assembly to the floor, drill a hole large enough to permit the light of the headlight bulb to pass through the end. The light bulb itself will be mounted on the inside of the car and its rays will pass through this hole. A short section of brass tubing makes an ideal headlight. Solder a small machine screw with the head cut off to the inside of the tube. Allow the screw to extend out from the tube so it may pass through a small hole drilled in the end section just below the larger hole drilled for the light: a nut will hold this on securely. A small disc of clear celluloid or plastic for a lens should be cemented into place in the tube.

Small pieces of wood cut to size (substituted for metal) may be used for window posts, while a hard balsa or pine block can be readily shaped for the front or rear. Both upper and lower sections of the end pieces can be cut from a single block of wood in one operation. Don't forget to install a trolley cord reel on the rear and a destination marker on the front. Necessary molding is added as the finishing touch to the ends.

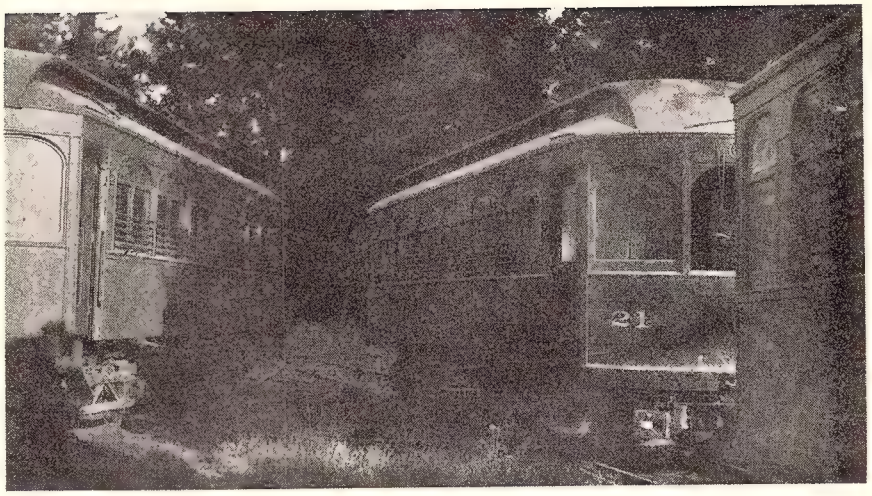
Huge steel bumpers usually seen on interurbans can be skillfully worked out with a low temperature metal such as lead, printers metal or other soft alloys. A small pattern made from plaster of paris will provide a straight section of metal when cast. Filing and bending to the contour of the front and rear ends will produce a nice looking bumper. This detail will increase the weight for traction purposes and also add protection to the car itself. Fasten bumper in position with small straight pins or escutcheon nails.

ROOF

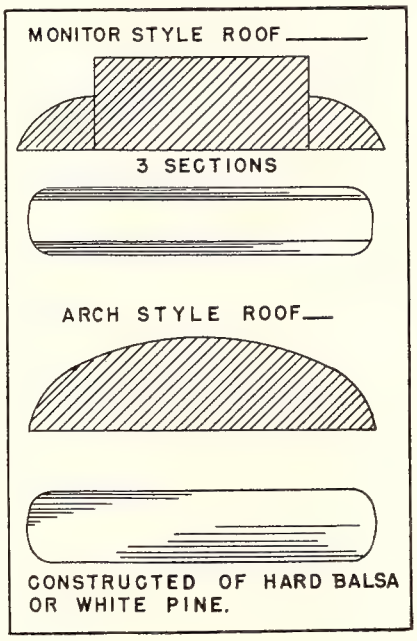
The roof may be made of white pine or hard balsa. The Monitor style is made of three sections cemented together to form the entire roof. This is perhaps easier than carving the roof as a unit. This does not hold true for the arch roof as one piece construction is not difficult.

On cars using ventilators, holes may be drilled and the vents cemented in place. A hole should also be drilled to take the power wire from the trolley as this connects to the power trucks on the inside of the car. Any additional trim, molding or painting may be finished up before the roof is mounted into place on the car. For detail, rain gutters should be added to the roof just above the herald boards. These protect front and rear windows and each door. Thin strip material, cemented in place, will be satisfactory. Install before painting for a neat job.

In building a clerestory roof, note carefully the contour and slope of the ends and sides. Clerestory ventilators in the top section may be marked or outlined with a scribing tool. Careful study of the photos will reveal the smooth flowing lines of the roof.



Side view of #24 and #21 showing right and left side of E. O. T. car detail.



INSIDE SUPERSTRUCTURE

Frame work for reinforcing the sides are made of wood not to exceed the width of the car window frames. Size of these squares are determined by the width of the floor and height of the sides. More squares may be used if considered necessary. Cement in place to the floor in such locations as to offer strength to the side walls. One may act as the arch between the smoker and rest of car.

The roof rests on top of these squares or supports, fastened with two small flat head wood screws countersunk to make the screw tops flush with roof. This affords easy access to the car inside. A fine thin strip of balsa wood is carefully cemented to the under side of the roof, forming a molding around the sides when the roof is placed in position which helps hold them in shape. For accuracy, this should be done when car is nearly assembled and roof is in position.

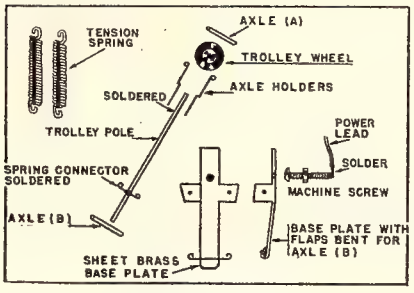
THE TROLLEY

The trolley pole is constructed of brass or copper rod. Material of reasonable diameter and strength should be used. A trolley wheel turned on a lathe should be added or the wheel may be a dummy that looks real but operates on the shoe type principle. The former is more realistic but requires more work. The spring tension arrangement of the trolley is so built so the trolley is under tension at all times. The pole must be able to rise and fall freely, to turn in a circle without obstructing the tension in any way.

My design may not be exact to the letter in construction but it does all the above operations faithfully. It also looks presentable and similar to the prototype. Presuming we have the wheel mounted at the top of the trolley (see drawing), we can now start at the bottom or base of the pole. A piece of sheet brass (called the base plate) is cut with two flaps, a small hole drilled in each flap to take a small brass rod or axle which will turn (see sketch). One hole is drilled in the flat brass or base plate between the flaps to take the screw that will hold the trolley onto the roof. When the trolley is finished this screw will be tightened into the roof until the base plate revolves smoothly in a circular direction. The trolley is now soldered to the rod or axle at the bottom of the pole. This gives the pole the *up and down* motion necessary in following the wire. It should move freely, care taken not to run solder into the axle holes which might hamper the movement.

Two small pieces of wire with loops at each end are soldered into place. One is soldered just above the soldered joint where the pole is now hinged and the other soldered on the far end of the base plate. Two springs of suitable tension are slipped into place, one end of each spring

going to the loops on the pole and the other two ends going to the loops on the base plate. A wire is attached to the screw which goes through the base plate



into the roof on the inside of the car to supply power and lights. A trolley cord is attached to the pole near the wheel and your pole is now ready for operation.

FENDER OR PILOT

During the earlier days of E. O. T., the cars boasted a fender or pilot of two piece design. They were very large and looked quite clumsy although very efficient. These pilots were used on the monitor or clerestory cars at the start of operation but some were later replaced with a smaller style of newer design, one piece arrangement. The later ones being shorter, were connected under the front of the body directly in front of the trucks. They were constructed of steel spokes or round rods and were fastened at the top and bottom by a stout steel bar. The design was more or less square while the spokes curved upward as they neared the tracks.

The arch roof cars had a similar fender except it was curved or rounded at the lower edge. The bottom protruded ahead of the upper part that was connected to the car body and placed the steel spokes on a straight angle with no upturning near the tracks. This particular type was very nice looking and seemed to be tailor made for these steel interurbans.

Close study of the photos disclose the fender design. For simplified construction, two pieces of round brass rod are cut the proper length to form arcs the width of the trucks. After bending to shape, a series of holes are drilled in each rod to take the braces or spokes which laminate the pilot.

Short pieces of copper wire are cut and inserted into the holes and soldered. Remember, the upper drilled rod will be slightly shorter in length than the lower rod. This creates a splayed effect when finished. One or two pieces of flat bent brass (drilled for a wood screw) is soldered to the fender to secure it to the floor underside. Careful soldering will create a neat looking unit, sturdy and realistic.

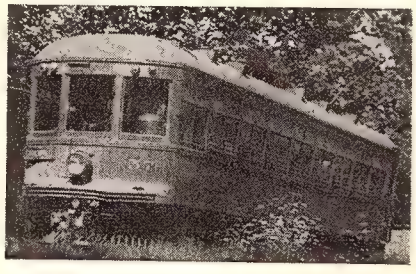
CAR ASSEMBLY

The end sections are first pinned and cemented into place. The reinforcing squares or frames are positioned and glued fast. When thoroughly dry, the underside detail is added. The two side sections are cemented and pinned in position by placing straight pins in the lower section of the sides and fastening them into the floor.

Small straight pin heads are not too conspicuous when painted and serve well for this particular job. The reinforcing squares are cemented to the sides so they do not show, making certain they are placed behind a window post. The builder will be able to detect where cement should be placed to gain the most strength and durability in his work.

The power and trailing trucks are secured in place and couplers and steps added. The roof is the last piece to be assembled so we may string several lamps to the reinforcing squares. Mount a lamp on the floor just ahead of the front truck for the headlight. Run all wires from the lights and motor in a neat arrangement back to where the trolley lead comes in through the roof.

The car may now be painted and celluloid windows or other material installed when the paint is dry. The roof with the completed trolley pole mounted is placed in position and secured with two small countersunk flat head wood screws into the reinforcing squares. Before the roof is tightened down, connect the power lead from the trolley to the wires inside the car.



Heavy arch style steel car #57, approximately 55 feet long.

E.O.T. COLOR CHART

The color of the E. O. T. passenger and freight cars closely resembled tuscan red. The numerals, lettering and striping were done in gold leaf. Trucks, under carriage detail, bumpers and accessories were black.

The roof is considered by some to have been a reddish fabric somewhat different from the body. Others believe it was possibly black, however either color would not be a drawback.

Vestibule, smoking compartment and rest room were standard equipment on all these cars. Hand rails were brass while a square marker signifying destination of the car was mounted on the right hand side of the front. The lettering "Gates Mills", "Chardon" or "Middlefield" was painted in white or gold. The pilot or cow catcher matched the under detail in black. Gold leaf numerals on the car sides ranged from number 1 to 60.

TRACK AND OVERHEAD

E. O. T. single track was split by numerous sidings and switches. The arrangement permitted several cars to run at one time. The usual telephone and dispatcher system safe-guarded the cars and prevented many corn field meets.

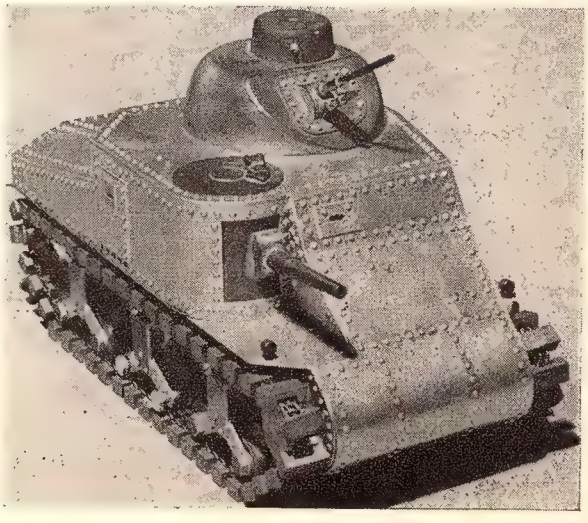
A copper overhead wire supplied the power and wooden poles were set up along the right-of-way. Single bracket arms protruding from the poles supported the hot wire.

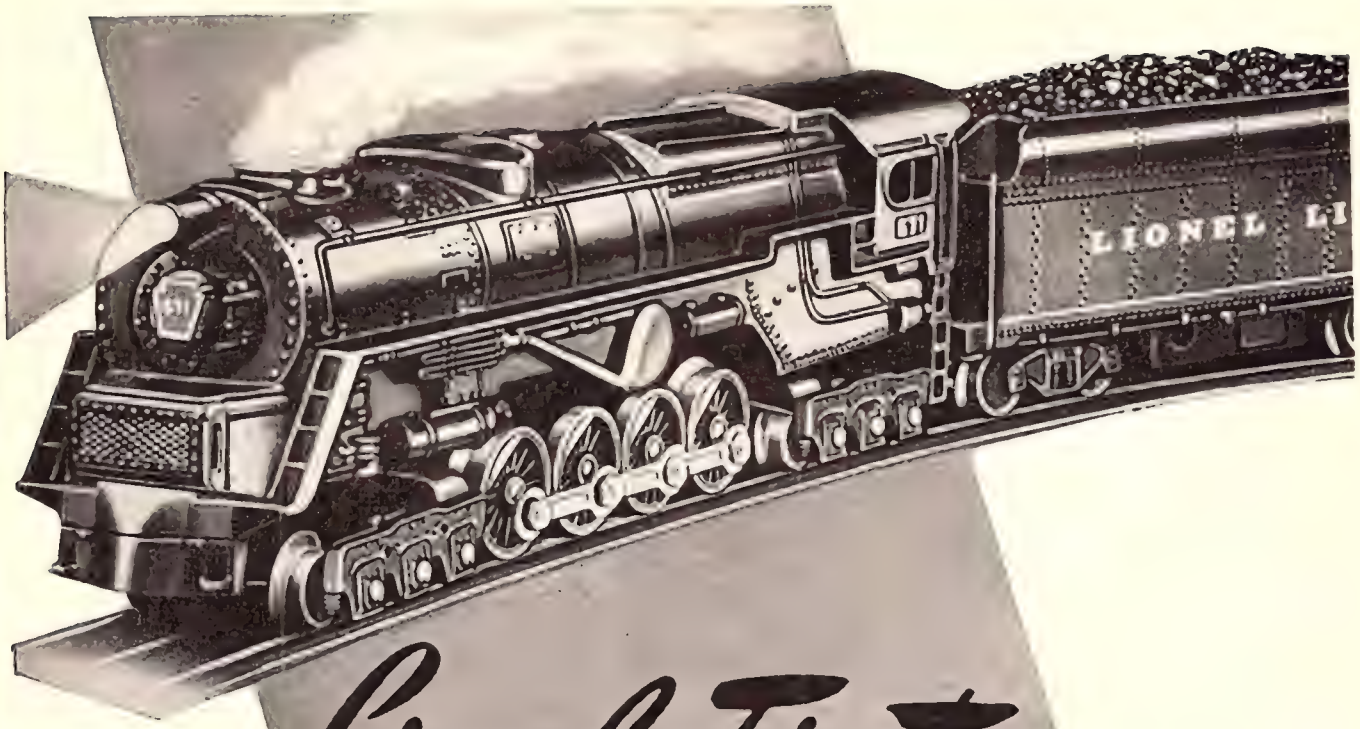
WIRING SUGGESTIONS

An easy method of keeping various wires readily accessible in case of future repairs is not too difficult to work out. All that is necessary is a small hook-up panel made from a piece of strip copper, bent and shaped so it is mountable to the reinforcing section of the superstructure inside the car. A good location is to fasten the hook-up panel in the lavatory and run the wires into it. When using a piece of copper for a hook-up panel drill four or five holes and tap them for small screws or solder brass nuts into place to hold the screws.

The lead-in power wire from the trolley should be fastened securely at the hook-up panel but only clipped into place at the trolley pole lead-in screw. This simplifies removal of the roof and easy access into the interior. The wires carrying the power to the motor and lights are tapped off this hook-up panel separately. Foresight of an extra terminal or two will make available a power wire in case a trailer is attached to the motor car. This will provide lights in the trailer simply by connecting a wire between the two cars. Usually, if the wires are run through the flooring and fastened on the underside of the car body, a neater job is presented.

ARMY M-3 TANK built up from scrap material by B. Lawrence, of Baltimore, Md. The 1,050 1/16" rivets were driven with a converted automatic center punch. It is powered with a 30-volt motor taken from a discarded pin ball machine. An old player piano furnished parts for the reduction gear drive. Tread blocks are die-cast lead. This beautiful model took approximately 3 months of spare time to complete.





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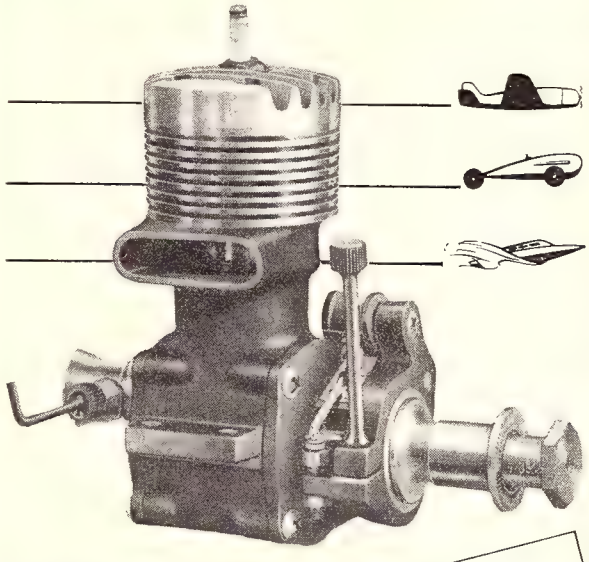

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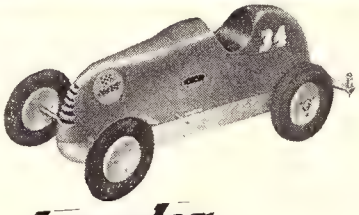
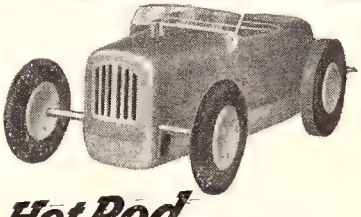


Invader Prototype racing car **$42.50**

McCOY World's champion racing car . **$42.50**



Hot Rod A-V8 racing prototype **$42.50**

DURO-MATIC
PRODUCTS COMPANY
HOLLYWOOD 38, CALIFORNIA

DURO-MATIC SPEED FACTS

August 1946. The racing RED HEAD sets new *official* AMA world's record in All-Western Open, Los Angeles (123.88 mph).

September 1946. The McCoy RED HEAD "60" and "45" get *first place* in both Class C and B at the Wichita Nationals.

MINIATURE RACING CARS

Jack Sheridan awards trophy to Stan Prussian who took first spot in Spur Gear with 108.43 MPH at the Trenton Meet, Oct. 6th.

TRENTON RUNS OFF BIG MEET

THE Trenton Gang really got a break this year in the weather running off their scheduled October 6th meet with the temperature up in the 80's. (That soda didn't stand a chance—went early in the morning!) Entries came in very slowly up until 10:00 A. M., and then seemed to come in "droves," establishing a record for the past three years—a total of 69 entries!

The track had been scrubbed early that morning and was in good shape for the meet which started at 10:30 A. M. The Trenton Club had previously decided to run only two heats to enable those coming from a distance to get away early. Considering the large number of entries, this was a wise decision, the race ending at 4:00 P. M. The Club's timer worked very well, having only three failures which were re-run later. The Club, however, has felt all along that a contact at the center post was not the most satisfactory method of timing. To this end, their good friend and timing wizard, Mr. J. G. Beard, of Haddonfield, N. J., was contacted and confronted with their problems. For some time now, Beard has been working on an electric eye timer, and unveiled it at the home of Jack Sheridan at his "pre-race get together" on Saturday, October 5th. It proved quite a sensation and the boys all feel that it will be as perfect as any mechanical gadget can be made. This had been promised to the club for the near future.

Stan Prussian hit high spot for the day in Spur gear with 108.43 MPH. Bob Smith and Fred Lunning tied for second place with Smith winning the run-off. Jack Mayhew ran his experimental Spur Car and while it did nothing exceptional, it did create considerable excitement when Jack took the motor apart to show how it was made. He promises to work on it this winter and try to step up its speed.

The Trenton Club welcomed back many of its old friends as well as their new ones, and promises more trophies and soda for the boys at future races. Eight trophies were given to the winners in the Spur Gear group, with three each for the Own Design and Mfg. Proto Classes. This was strictly an AMRCA race and AMRCA sanctioned, the association gained eight new members, four of whom came from York, Pa., where they have just installed a new track. Speeds follow:

SPUR GEAR CLASS

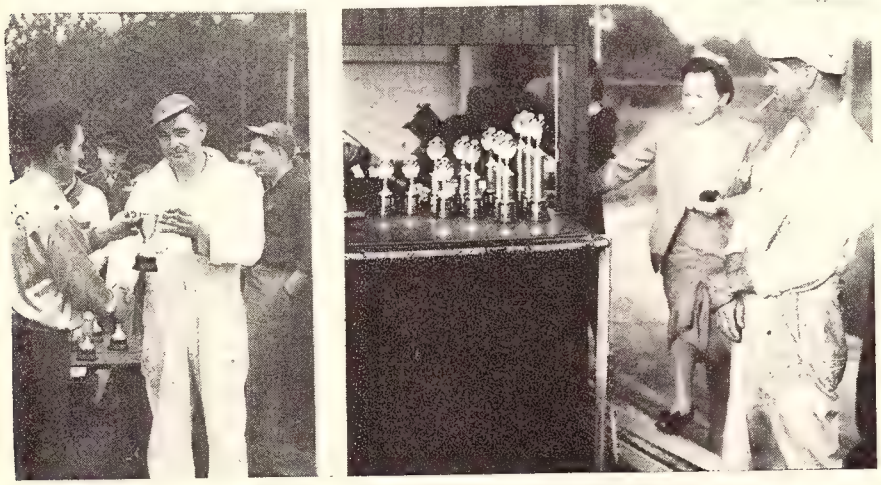
NAME	TIME	MPH
Stan Prussian	8.30	108.43
Bob Smith	8.40	107.14
Fred Lunning	8.40	107.14
Bob Miller	8.43	106.76
Bob Whiteside	8.44	106.63
Frank Lunning	8.53	105.50
Frank Vales	8.56	105.14
J. Jaciow	8.61	104.52
A. Remez	8.67	103.80
W. Remez	8.70	103.44
Frank Valeo	8.71	103.32
J. G. Beard	8.72	103.21
H. Frank	8.73	103.09
W. Martine	8.75	102.85
Wm. English	8.76	102.73
Charles Drower	8.77	102.62
R. Brugard	8.78	102.50
F. V. Rogachnik	8.80	102.27
Charles Noll	8.80	102.27
J. Kenny	8.84	101.80
T. Drower	9.00	100.00
A. Van Dyke	9.00	100.00
F. J. Wolf	9.00	100.00
J. Sampias	9.02	99.77
H. Fox	9.02	99.77
A. Trezza	9.08	99.11
M. LePurage	9.26	97.19
J. E. Cole	9.31	96.67
W. L. Gunning, Jr.	9.75	92.30
R. Wenzel	10.25	87.80
S. Abranski	10.26	87.71
J. Sampias	10.39	86.62
M. LePurage	10.66	84.42
R. Pritt	11.16	80.64
C. Pritt	11.39	79.01
E. F. Price	11.44	78.67

PROTO (own design)

R. Deus, Jr.	9.33	96.46
B. Janovics, Jr.	9.39	95.84
H. Fox	9.75	92.30
F. A. Barry	9.89	91.00
L. F. Walsh	10.10	89.10
R. Wincher	10.69	84.19
L. M. Burke	10.81	83.25
J. Walsh	10.85	82.94
J. H. Peters	10.95	82.19
D. J. Peterson	12.02	74.87

PROTO (manufactured)

W. Conners	9.64	93.36
P. H. Stiles	10.22	88.06
K. Passler	10.29	87.46
A. Vales	10.76	83.64
H. E. Brugard	11.55	77.92
C. Hahn	12.08	74.50



Bob Miller taking fourth place in Spur Gear at the Trenton Meet with 106.76 MPH. Right—"Better watch him, fellas, Sheridan's got his eye on those trophies!"

FLORIDA ORGANIZES RACING CIRCUIT

THE Florida Miniature Race Car fans got together in Eustis, Florida, on Sunday, Sept 29th, for a big day, including a dinner for all the fellows and their families. At this meeting, the "Florida Miniature Racing Car Association" was organized with W. A. Baker of the Eustis Club elected as State President; Ed Stone also of Eustis, Secre-

tary and Treasurer, and George Mangus of Miami as Publicity Manager. The Board of Directors will be composed of one member from each Club in the State. Purpose of the organization is not to break off from AMRCA, but rather to further racing in Florida, sponsoring a circuit of races throughout the state for the entire year.

Plans have been made to hold some big races during the winter months, the first to be the "First Annual Mid-Winter Open" to be held in Eustis, Florida, on Feb. 22nd and 23rd. This race is open to anyone in the entire country and an open invitation has been extended to every fan to keep this date and not bother packing your car away until spring! From the fine list of trophies, merchandise and also the cash award to the fellow traveling the farthest to enter the meet, makes this particular race an absolute "must" on your program. AMRCA rules will be followed for this sanctioned meet. The Eustis boys have a 70 foot diameter track with a grass infield. Anyone interested should contact Ed. Stone, Box 966, Eustis, Fla., for further information.

TWIN CITY LABOR DAY CLASSIC

AFTER the cancellation of their racing at the State Fair in St. Paul, Minn., the Twin City Boys staged one of their largest meets of the year on Labor Day at the Model Airport, located on Highway 36 and New Brighton Road. A large field of entries was on hand, with the "champ" Bill McClintock, failing to knock off the first spot as expected.

William McClintock, holder of the Twin City record of 94.73 MPH.

Winner for the day was Herb Haagenson with a speed of 91.83 MPH in spur gear. Lytton Calrow, St. Paul, followed close behind at 90 MPH, with Bill McClintock, taking third place with 88.23 MPH.

The boys are now cooking to form a circuit of several midwestern cities, which would include the Twin Cities. Included in this circuit would be several of the cities having rail tracks, such as Chicago, South Bend and Milwaukee, making it necessary that the Twin Cities gang get together and put in a rail track of their own.

CAR CLINIC

NUMEROUS requests have come in to this office regarding a column for the beginner in midget racing, a spot where the newcomer may look each month for tips and hints on "how to do it and when," "What to do when this happens," etc. The experienced man himself may be able to pick up a few ideas from this column as well as the beginner. Each month we shall endeavor to cover some item of importance which may prove a stumbling block to the novice.

Don't hesitate sending us your requests, regardless of how small or insignificant they may appear to be! And you veterans—why not send in a few words of advice to the new fellow, and give him a break in starting this game? Remember, you were once in the same position yourself!

Look for the *CAR CLINIC* next month when we shall start the ball rolling!

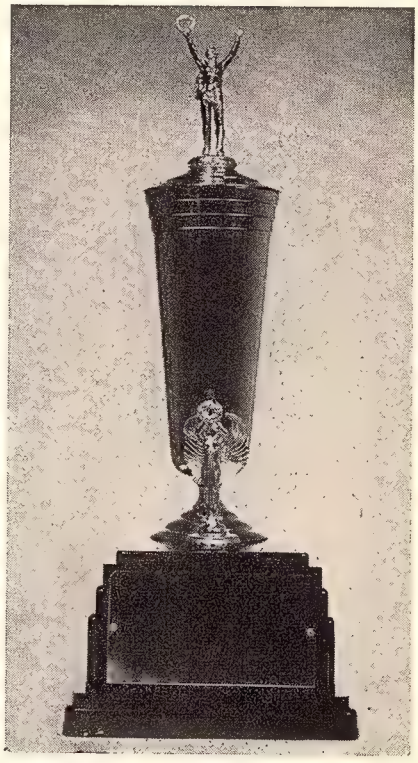
NEW YEAR'S DAY CHAMPIONSHIP MEET COMING UP!

NEW Year's Day is just around the corner and with it a real chance to cop the Championship Trophy put up by the members of the Monroe Model Race Car Club of Monroe, La. This beautiful trophy will go to the first man breaking the now existing speed record in either spur gear or proto class starting at the New Year's Day meet at Monroe. Should the record not be broken, the trophy will be awarded to the first man establishing a new mark at any AMRCA sanctioned meet in the country. (*Check your speed records, boys, there's lots to shoot for!*)

Joe Olender and Herb Suddeth of Indianapolis, both outstanding race enthusiasts, have visited the Monroe track and report that it is very fast and has their "okay." Coming from veterans such as these two men, the rest of you fellows can be assured that there will be no handicap as far as speed is concerned, and should stand a good chance for the "bacon." All racing fans wanting reservations to attend this race should write directly to Fran Brennan, c/o Brennan Utilities, 515 Ouachita Ave., Monroe, La., stating how many rooms they want, whether single or double, and the period of their visit. All cars and racing equipment can be sent to this same address, and will receive excellent care until your arrival.

The Monroe Club is a new organization, but one of the most active now in the country, due largely to the splendid work of that live-wire gentleman, Fran Brennan. All of you fans who managed to take in the recent Detroit Nationals, will recall Fran who was given the colorful title of "Senator Klaghorn." The boys all got a big kick out of this name and somehow Fran managed to struggle along with all the kidding dished out his way.

Another feature attraction for those traveling down south on New Year's Day, is the big noon-day Barbecue at Monroe. As Senator Klaghorn says, "There's nothing like it; it's that good old Southern Style. With a loaf of bread and a pound of meat, and all the mustard you can eat, and yes, too, down in the South, with an onion in the center and a pickle on top, it will make the boy's tongues go flippity-flop." Yes, my good friends, you will really be missing a big time if you don't set your plans now to attend the big New Year's Championship Race deep down South in good old Monroe, Louisiana.



"Something to shoot for!" This beautiful trophy donated by the Race Car Boys of Monroe, La., will be awarded to the first man who breaks the now-existing speed record in either the Proto or Spur Gear Class, beginning with the first day of the new year at the Monroe track. If these contestants do not take the trophy at the Championship Race in Monroe, it will still be on the block and will be awarded to any other person throughout the country exceeding the record at a AMRCA Sanctioned Meet.

WIRE SPOKED WHEELS
for your Midget Racer

HERE'S one way to doll up your midget race car—wire spokes for your wheels! Many of you fellows owning prototype cars should sit up and take notice, for this extra detail will do much to give your car that real "conventional" appearance. This idea came from scaled drawings of two famous racing cars, namely Dick Seaman's "Mercedes" of 1939, and Nuvolari's rear-engined Auto-Union of the same year. As far as general design of these two autos is concerned, the Auto Union can be built as an upright, rear engined car, driving on the front wheels. The Mercedes can accommodate any motor lying flat across the car, with spur gear drive to the front wheels instead of bevel drive gears.

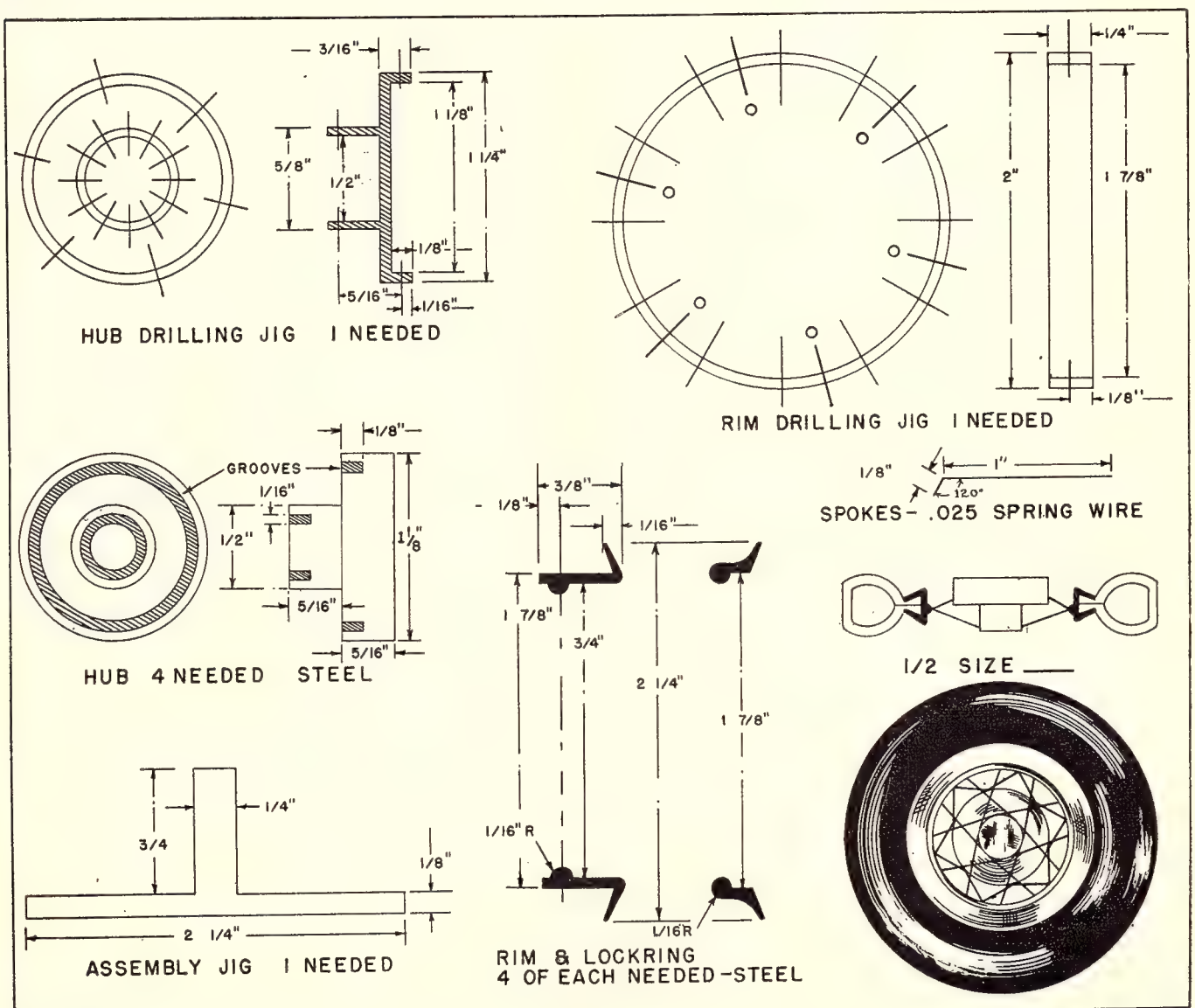
Let's begin by making the four hubs from mild steel. All parts should be well polished during machining so as to chrome-plate smoothly when completed. Turn the hubs as shown on the plans, and drill and ream to fit your diameter axle. For the present, leave the larger area solid. Turn two 1/16" wide grooves on the front faces of the hubs to a depth of 1/8".

The drilling jig is next turned to fit neatly over the hub. Mark off the 12 holes on the smaller diameter section as per drawing, and the 6 holes on the larger diameter between centers of the first holes. Drill these holes .030 inches and then jig drill the holes into the hubs deep enough to break through into the turned groove.

The main portion of the rim is next made as shown, four being required. The drilling jig for the rim consists of a ring, being a neat fit on the outside threaded section of the rim and having a total of 18 holes as follows: 12 holes are evenly spaced around the ring with the other 6 holes evenly centered between every two. These holes (.030") go through the rim.

The only other jig necessary is for assembling the finished wheel, consisting of a piece of plate bored out for a close fit on the flange of the rim, with a spigot the diameter of the axle centrally located. Spokes are pieces of spring wire, about 1 1/8" long, with 1/8" being bent at approximately 120°.

Place a hub with spokes inserted, roughly positioned as shown, onto the spigot of the assembly jig. Thread the spokes into rim, the spokes from the small diameter of the hub being parallel in pairs and the spokes from the larger diameter of the hub joining at the rim to form a "V." Keep the spokes crossing in the same order for neatness, and push the rim into the jig. The recessed grooves in the hubs will receive silver solder, holding the spokes permanently in position. Your easiest method will be to position the 12 rear spokes to form the V's, fill the groove with silver solder and then clean up the hub face on the lathe, mounting it on the spigot. Replace the wheel in the jig and assemble the remaining spokes, silver soldering them into their groove and onto the outside of the rim. The rim can be also cleaned up and screwed on a spigot, the lock rings being turned as shown on the drawing. Drill two 1/16" holes diagonally opposite to accommodate an open spanner for tightening. By mounting the wheels backward on the lathe, the larger section can be bored out to receive ball races if desired. After the application of a chrome finish, your spoked wheels are ready for use.—*J. Docksey.*



Harry Kopack, official starter for the Chicago Club, shown with the many beautiful trophies recently awarded at the Rail Nationals.

SEPTEMBER ACTIVITIES AT CHICAGO SPEEDWAY

IN THE activities around the Chicago-Midwest Model Speedway, Willie Weller continues to be top man with his Richter Streamliner #4, as a rule qualifying consistently between 79 and 80 miles per hour, and just as consistently winning the feature races.

The next two regular rivals are Clyde Rohrer's #1 and Jimmie Thompson's 12B. These two streamliners are continually battling it out with their speeds being very close.

In the conventional class, Clyde Rohrers "Trombone Special" #1A, has been making it tough for the boys, with George Riff's #26 coming in for its share of the honors. There are several other conventional cars coming up into the higher speed brackets, and the Conventional Class can no longer be termed the "Dog Class" as it has in the past.

It is expected that the coming winter will see many new cars under construction, to make their bid in the 1947 season. Christmas will soon be very near, and the 1946 racing activities will have progressed into workshop conversation, or "Basement Racing." The boys will then be dreaming and predicting what their new creations will do, come May 1st, 1947. Activity for the month of September follows:

STREAMLINE POINT STANDING
9-29-46 (inclusive)

NAME	CAR	POINTS
1. W. Weller	#4	1065
2. C. Rohrer	#1	1035
3. J. Thompson	#12B	880
4. B. Meskowski	#5	630
5. H. Kopack	#9	295
6. H. Vernon	#7	265
7. C. Widen	#11	255
8. F. Pawlikowski	# 3	200
9. J. Loschiavo	# 6	170
10. E. Lipski	# 2	75
11. E. Marks	#33	40
12. C. Wolff	#X	25
13. E. Lipski	#2A	10
Mascot B. Starry		100

CONVENTIONAL POINT STANDING

1. C. Rohrer	# 1A	945
2. G. Riff	#26	890
3. J. Thompson	#12C	885
4. Roy Springfield	#15	595
5. B. Meskowski	# 5A	370
6. R. Staschke	#10	335
7. J. Rozhon	#34	215
8. G. Fetzner	#30	175
9. J. Loschiav	# 6A	165
10. T. Alongi	# 8	140
11. H. Vernon	# 7A	110
12. G. Schaap	#27	75
13. Roy Springfield	#57	65
14. A. Greenwood	#13	65

SEPTEMBER 1st —STREAMLINER

NAME	QUAL. TIME	MPH
J. Thompson	11.82	76.14
C. Rohrer	11.80	76.27
B. Meskowski	12.12	74.26
H. Kopack	12.22	73.65

SEPTEMBER 1st CONVENTIONAL

C. Rohrer	12.15	74.08
G. Riff	12.23	73.59
J. Thompson	12 11	74.32
J. Loschiavo	12.55	71.72

SEPTEMBER 8th STREAMLINER

C. Rohrer	12 61	71.37
W. Weller	11.51	78.19
B. Meskowski	12.55	71.72
H. Kopack	13.20	68 18

SEPTEMBER 8th CONVENTIONAL

C. Rohrer	12.33	72.99
G. Riff	12.37	72.76
Roy Springfield	13.23	68.08
J. Thompson	12.31	73.11

SEPTEMBER 15th STREAMLINER

W. Weller	11.35	79.30
J. Thompson	11.81	76 21
C. Rohrer	12.15	74.08
C. Widen	12.15	74.08

SEPTEMBER 15th CONVENTIONAL

C. Rohrer	12 28	73.39
R. Springfield	13.10	68.70
B. Meskowski	13.08	68.81
A. Greenwood	13.25	67.93

SEPTEMBER 22nd STREAMLINER

W. Weller	11.54	77.99
J. Thompson	11.86	75.89
C. Rohrer	11.93	75.44
B. Meskowski	12.80	70.31

SEPTEMBER 22nd CONVENTIONAL

C. Rohrer	12.23	73.59
G. Riff	12.42	72.46
J. Thompson	12.38	72.70
R. Springfield	13.10	68.70

SEPTEMBER 29th STREAMLINER

W. Weller	11.30	79.65
C. Rohrer	11.77	76.47
J. Thompson	11.82	76.14
B. Meskowski	12.26	73.44

SEPTEMBER 29th CONVENTIONAL

C. Rohrer	12.90	69.77
B. Meskowski	12.92	69.66
J. Thompson	12.58	71.54
R. Springfield	13.10	68.70

APOLOGY—M & G HOBBY SHOP.

We wish to apologize to our friends of the M & G Hobby Shop, who so generously donated prizes for the National Races, for neglecting to mention them in the list of prize donors in the September issue. . . . Chicago Model Race Car Association.

CHICAGO PERSONALITIES

FRANK PAWLIKOWSKI is one of Chicago's regulars, having been with the club for several years now, and with "his car on the track" whenever there is any racing. He is 33 years old, married, a top-notch machinist, also quite active and efficient in photography. He and his wife, "Florence," reside at 3656 South Winchester Ave., Chicago.

Frank is well equipped with machine tools which he has acquired over a period of years by saving his spare pocket change. His equipment consists of a nice 9" metal working lathe, 14" floor model drill press, grinders, and other tools of similar nature. Having spent quite a few years as top-grade machinist he has

Frank Pawlikowski — "Chicago's #3 Boy" — with his two cars, the DP Special conventional and the "Palvern" streamliner.

accumulated quite a collection of precision hand tools, such as micrometers, etc.

(*Note: We do not mean to convey the impression that the Chicago boys are "men of means" by describing their tools and equipment. Actually these boys are hard working people like you and I, but divert their spare spending money into those channels instead of spending it less wisely. Any of us can accumulate equipment on this basis.*)

Frank operated his car for years under #53 but in the reshuffle of numbers, drew #3, which he well merits. He is somewhat of a "pillar" of the club since he and Florence own the property where the new track is being assembled. The Chicago boys feel indebted to them for offering this location in the club's hour of need.

Frank also has the distinction of being

(*Continued on page 63*)

KENOSHA OFF TO GOOD START!

THE Kenosha Model Race Car Club of Kenosha, Wisc., have just been granted the use of a beautiful piece of land on which to construct their track. It is located on the north side of town along Lake Michigan in Alfords Park. According to Doug Tuttle of the Kenosha Club, there are plenty of shade trees, ample parking area, rest rooms, playground facilities for children and best of all, is out where the noise won't bother anyone.

The club is now in the process of raising funds and expect work to begin next spring. There is also plenty of flat grassy land directly around the race track location which would be ideal for Control Line Flying and might prove the deciding factor in bringing the City's model enthusiasts together. Good luck, fellas!

SUSQUEHANNA GANG GOES TO AUBURN

ON SEPTEMBER 29th, the boys from Susquehanna Valley visited the Auburn Model Car Club, together putting on a swell show. The Auburn track, made of asphalt, is quite bumpy in spots, and the boys are working hard to help them get a concrete running surface.

Right now, those live-wire fellows from Susquehanna are fostering the idea of starting a racing circuit in the central part of New York State, the cities of Buffalo, Rochester, Auburn, Syracuse, Utica, Tri-Cities (Binghamton, Endicott, Johnson City) and Scranton, Pa., participating. They have yet to contact the model car boys in these mentioned cities, and ask that anyone in these localities contact the Susquehanna Club immediately and view their thoughts on this subject. Address the Secretary, Dave Reed, Jr., Box 11, Vestal, N. Y.

PROTO--NOT FOR SPEED!

THIS interesting photo shows a contional race car built some time ago by Raymond C. Boss, of New London, Conn., at the time when Ralph Pickard was writing for MC. The chassis is of welded steel construction, with front and rear springs, stainless shock absorbers and working steering gear using a speedometer worm gear set. Ball and socket joints are used in the steering gear and radius rods. Rear end is made up of steel turnings and the gears were cut on a homemade lathe milling attachment. The engine is a G. H. Q. with piston and timer of his own design. The carburetor is the float feed two jet job which appeared in July, 1938 MC. Body is of 1/64" steel built up in three pieces and brazed together. Radiator, exhaust stack, dash and all trim are of stainless steel. Car is painted maroon with lemon wheels.

The spoked wheels were the original idea of the builder, a lot of extra work but well worth the effort judging from the fine appearance of the finished car. Wheels have steel rims and hubs with piano wire spokes assembled on a jig. These were silver soldered in the hubs and electric welded into the rims. The hubs were bored oversize and plugs (bronze for front wheels and steel for the back) were silver soldered into the hubs along with the spokes. Axle holes were bored in the lathe after the wheels were completed. When built in this way, the wheels are very rugged and run true.

The car is really heavy and although it runs very well, was built with more concern to prototype appearance rather than speed, probably not beginning to make a show if put up against some of the fast irons of today.

OMAHA OPENS NEW TRACK

THE Omaha Model Race Car Association opened their track on September 28th with a very good turnout from both local and Lincoln, Nebraska, boys. About 25 cars were entered in all. Col. Smith, C.O. of Offut Field, knocked off top position for the day with 112.03 MPH, using a Hornet powered Matthews car.

The new Omaha track became a reality through the efforts of Les King, former Dirt Track and Midget Race Car Driver; his sons Bob and Don; G. G. Zenchuk and J. Shields, co-owners of the Omaha Model Supply; Don Boggs, owner of Hobby Haven; Bud Updike of the Grain Exchange and Dwain Stocker of the Omaha World Herald. Considering the acute shortage of materials in the recent past, these fellas really had to "get in and dig" in order to complete their project. Further adding to their difficulty, it rained on the day these men poured the concrete.

These boys have gone through the ropes and can offer some good advice to the fellow just starting out building a new track. Don't become discouraged if you don't find the necessary material all at once. It takes time to even find used lumber and some wood may have to be used several times before completing the track. Despite the outcome, make your track safe for the spectator and contestant!

PRESENT SPEED RECORDS

THIS is your standing box score. Each month we will publish these results for your benefit until newly established records replace them. These are the present existing records as reported officially to this office, showing the highest speeds established on both cable and rail tracks, type car and engine used, together with location and date of established record:

1/16th MILE CABLE TRACK

SPUR GEAR: Set by Dick McCoy at San Francisco, July 7th—116.73 MPH
(McCoy Car with McCoy Engine)

PROTO: Set by Howard Lee at San Francisco, July 7th—108.95 MPH
(Own Design Car with Hornet Engine)

1/24th MILE CABLE TRACK

SPUR GEAR: Set by Fred Luning at East Meadow, L. I., on Sept. 1st—118.73 MPH
(McCoy Car with Hornet Engine)

PROTO: Set by Dale Martell at Waukegan, Ill., Sept. 1st—113.21 MPH
(Own Design Car with Hornet Engine)

1/16 MILE RAIL TRACK

STREAMLINE: Set by W. Weller at Chicago, Aug. 25th—79.30 MPH
(Richter Streamliner with Hornet Engine)

PROTO: Set by Clyde Rohrer at Chicago, July 18th—76.40 MPH
(Own Design Car with Hornet Engine)

TWO MEETS FOR KANSAS

THE boys out Kansas way were greatly disappointed on Labor Day to have old man rain step in and take over, postponing the meet until Sept. 15th. Weather conditions turned out to be ideal on this day with 34 entries in there pitching for top spot. For the Open Race, that genial bunch of racers returned from Kansas City, Mo., to Salina, Kansas, to offer their competition which turned out to be quite rugged. The Salina Club takes their hat off to a swell bunch of sports who deserved the hardware they took home.

There were no outstanding occurences other than loose wheels, etc., showing the great effort made for safety to all. The speeds did not approach those of racers in other parts of the country, but everyone had a good time and enjoyed the race. Several of the fairer sex came forth with soft drinks, coffee, etc., which sure hit the spot.

Roy Goodacre of Wichita and Jack McFall came to enter the state race and did very well with cars still having a slight mothball odor from being packed away for the past four years. George Harmon of Kansas City had the misfortune of breaking his wrist a few days before the race and was unable to operate his car. True sport that he is, George was on hand to lend moral support to his buddies. Of both races, George Hawkins topped the field with 89.37 MPH in Proto and Joe Addison with 104.40 MPH in Spur Gear.

SALINA OPEN RACE

SPUR GEAR ¼ MILE

	BEST TIME
Joe Addison, Salina	104.04
Everett Vernon, Salina	102.78
Bill Kaiser, Kansas City	97.61
Chas. Hedges, Salina	97.40
John DeLuca, Kansas City	93.94
Floyd King, Salina	92.59
Corky StClair, Salina	88.93

SPUR GEAR ⅛ MILE

Everett Vernon, Salina	103.09
Bill Kaiser, Kansas City	99.00
Joe Addison, Salina	98.25
Chas. Hedges, Salina	95.54
John DeLuca, Kansas City	94.33

PROTO ¼ MILE

George Hawkins, Kansas City	89.37
John Tadlock, Kansas City	86.70
Carol Beggs, Salina	84.58
George Boomer, Kansas City	83.87
Pat Brooke, Salina	71.54

PROTO ⅛ MILE

George Hawkins, Kansas City	89.28
Carol Beggs, Salina	87.80
George Boomer, Kansas City	87.71
John Tadlock, Kansas City	87.46

POSTPONED LABOR DAY RACE
(AMRCA Sanctioned)
SPUR ¼ MILE

Joe Addison, Salina	103.80
E. Vernon, Salina	102.27
Charles Hedges Salina	98.03
Corky StClair, Salina	96.15
Floyd King, Salina	93.16

SPUR ⅛ MILE

Joe Addison, Salina	104.40
E. Vernon, Salina	103.21
Charles Hedges, Salina	96.56
Corky StClair, Salina	95.13
Floyd King, Salina	93.75

PROTO ¼ MILE

Carol Beggs, Salina	85.71
B. Preston, Salina	83.33

PROTO ⅛ MILE

Carol Beggs, Salina	83.48

INTRODUCING MILWAUKEE

SOME might say this idea was taken from Jimmy Thompson of Chicago, but that's not rightfully so. But even if it were, we're sure Jimmy would approve of it. Years ago, about May 1940, the CRAFTSMAN was running a page called "Speed Personalities of the Month." It contained pictures of racers from all over the country with a thumb nail sketch below each picture. New faces appeared each month and the boys throughout the country began to know what the other fella and his car looked like. All of a sudden, however, this page stopped.

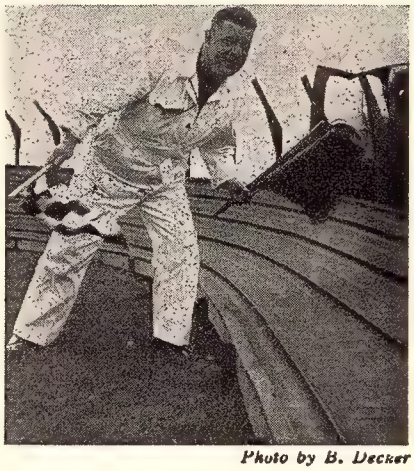


Photo by B. Decker

Introducing Bill Starwick—Starter and Flagman of the Milwaukee Rail Club.

Now, with the cooperation of the staff at MODEL CRAFTSMAN, Speed Personalities is being revived. Other photos will be shown also of staunch race car men who deserve a "plug" for their fine work. Yours truly will see that a new member of the Milwaukee Club is introduced each month.

This month Flagman Bill Starwick is introduced to you. Bill is a Milwaukee Club member who has been racing since "knee-high to a grasshopper." He has one of the nicest set up shops in the club and one can always find a group of the boys working with Bill on his machines, including a lathe, drill press, grinder, band saw, buffer and arbor press. Other equipment includes a complete foundry set-up and air compressor.

Bill hasn't had too much luck with his No. 38 but when he does get it clicking—watch out! This year will see a No. 38B, a new conventional that Bill designed which looks promising. Best of luck, Bill, in the coming season. . . . Bill Decker.

PUEBLO, COLORADO SPEAKS UP!

MAYBE our request last month for news from Clubs who have not been in contact with us, has done some good! At least we hope so. Word was just received from the gang in Pueblo, Colorado, regarding their facilities for racing, and our hats go off to them for contacting us. How about the rest of you Clubs who still refuse to let the other guy know what you're doing!

Melvin T. Baker, President of the Pueblo outfit, just sent in a most interesting letter regarding their race track. He also brought out the point that his boys are anxious to let the other fellow know what's cooking, in hopes that other clubs and individuals in their neck of the woods will come over and pay them a visit. They're most welcome to use the track at any time!

According to Mel, they really got started this summer, now having twenty members in their group running mostly proto cars. To date, their best time is roughly 85 MPH.

Their track is located in City Park on the Golf Course Road, just three miles from the center of town, easily reached by street car. This past summer, after having two cars break loose and wreck their old crash wall, a concrete wall was added. This was made 14" high above the running surface of the track, and 6" thick with half inch expansion joints. Two steel rods reinforce the concrete all around the track. We agree—it's goodbye car when they hit the wall, but it does protect the spectator which is of prime importance. As they put it "a concrete wall is far better than a lawsuit!" The wall is set back four inches from the outside edge of the track, allowing for track expansion.

The Pueblo track is 1/24th mile in size. The boys are running every Sunday morning starting at 10:30 A.M. and Tuesday and Thursday nights starting at 8 P.M. Two 500-watt floodlights facilitate night racing. With winter approaching, racing will soon be confined to Sunday mornings only, as their nights will soon be too cold.

PROTOS OUTNUMBER SPUR GEAR AT TORRANCE

DESPITE it being the day before Labor Day and the Matthews Trophy Race being run at San Leandro, a good crowd turned out for the Torrance Monthly Meet. Several members were out for their initial trials. For the first time since the war, the Protos outnumbered the Spur Gears more than two to one, with many Dooling Cars making their appearance.

At the club meeting preceding the time trials, President Bill Finch announced plans for a big meet to be held sometime in January of 1947. Plans are still in the formative stage with more details to be given later. It was also decided to hold a tune-up meet for club members only, about three weeks prior to the big race. Plans were also discussed for resurfacing the track, work to start within a few days. Once the track is resurfaced and a hard top laid in the pit area, the Torrance Club will have one of the finest cable track layouts in the country. Results of the September Meet follow:

SPUR GEAR

L. Paradiso, McCoy, Hornet	104.46
G. Axelson, McCoy, Hornet	102.15
G. Axelson, McCoy, Hornet	101.58
N. Graves, McCoy, McCoy	95.33

(*Continued on page 57*)

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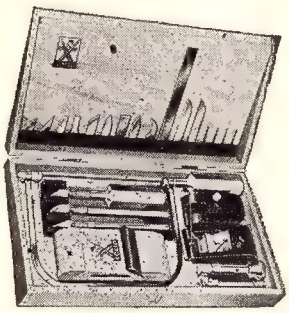
SPECIAL MODELERS TOOLS



No. 85 X-acto Tool Chest—3 all-metal knives; assortment of blades; saw; sander; stripper; planer, 2 drill holders; 10 drills; 6" steel ruler; complete in wooden chest, $12.50. (Illustrated)

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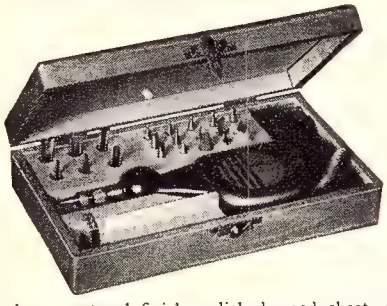
BURGESS DeLuxe VIBRO TOOL



Handsome natural finish, polished wood chest, complete with the Vibro Tool, sharpening stone and 22 attachments for writing on steel, decorating glass, and countless other jobs. (illustrated) $16.50

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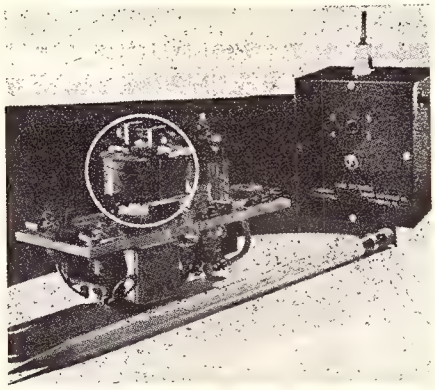

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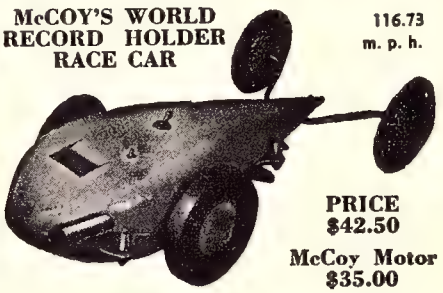

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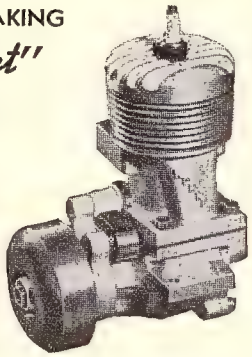

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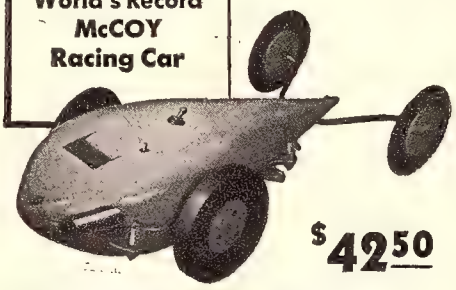

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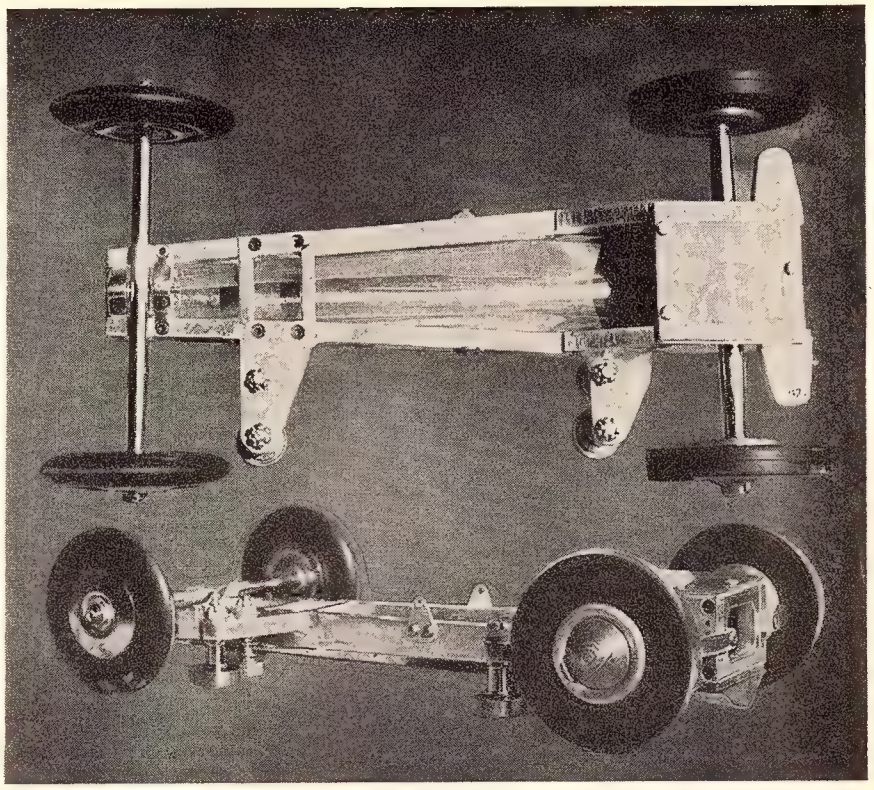

"THE DP SPECIAL"

By J. T. THOMPSON

IN THE April issue of MODEL CRAFTSMAN we showed a picture of a nice little conventional car called the DP Special. This name fell quite naturally from the fact that the builders claimed the entire car was made exclusively with a drill press; hence the Drill Press Special.

Two views of the chassis of this car are shown to give some idea of the construction. Note that the side rail as well as the frame cross members are formed from Dural bar stock. This is simply an alloy of aluminum commonly known as 24ST. Stock used is ⅜" thick and 1½" wide.

Note that the rails are formed by sawing away or splitting the bar stock part way down, cutting it off on an angle, to allow the wide section to form the sides of the gear box. The front and rear walls of the gear box are formed by using some of the same material as cross members. Rear axle rides in ball bearings, the Hornet engine being mounted on the side rails of the frame. Also note that the rail adapters for the track are made of the same bar stock with the front one forming the cross member and the rear one being welded on. This eliminates the rail adapter bearings being attached to the axles, permitting the rear axle to be a simple open shaft and should prove to be a good performer.

The front axle then becomes a simple problem since there is no strain from rail adapters and requires only a pivot point in the center, with no radius rods. Extensions protruding from the sides of the gear box at the rear of the frame are there purposely for handling the car, since there must be some provision for holding the car when starting it, and bowling it at the start of the race on a track.

The body is formed in one piece from Balsa wood allowing accessibility to the engine and all other parts of the car when the body is removed. The pan is a simple affair of very light sheet aluminum. Top and bottom of the gear box is Pyralin or some other suitable transparent plastic.

This car was designed and built by Willie Weller and Frank Pawlikowski. We feel that the boys have used a lot of ingenuity in this design and we are quite sure that performance will prove it to be one of the best designs we have seen. To the readers who are familiar with the construction of cars there should be no trouble experienced in copying it. For you less experienced men, we might say that the wheel base is approximately 12", that is the distance from center of front axle to center of rear axle, and the wheel tread is approximately 7½". The width of the side rails of the frame is relatively unimportant, except their being a proper width to fit the crankcase or engine mounts of the engine used. It will be noted that the two side rails are bent slightly just ahead of the gear box to allow the frame to taper toward the front.

CHICAGO'S #4 MAN—WILLIE WELLER

ONE of Chicago's staunchest and fastest race car men is Willie Weller. This is substantiated by his "top" record (unofficial) on rails, set at South Bend on Aug. 26, 1945, with 80.09 MPH. This, however, is nothing new to Willie, since he was always one of the top boys before going into the Army.

Willie, age 32, was Sgt. in Co. L, 141st

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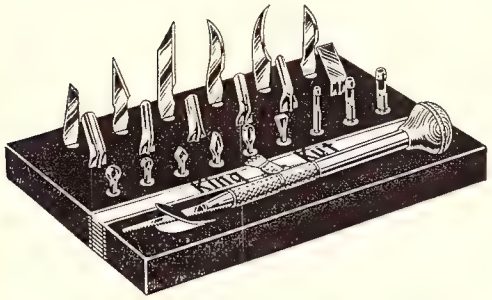

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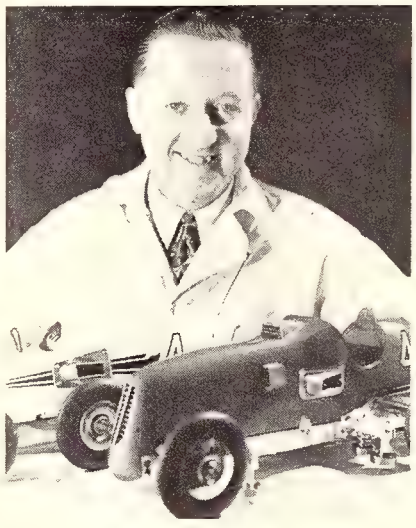
Infantry, serving in North Africa, Italy, France and Germany. He was wounded three times and taken prisoner once, escaping shortly after. He claims he walked clear across Italy and France. All through his service, he followed the Model Race Car News, both by letter and MODEL CRAFTSMAN.



WILLIE WELLER, Chicago's No. 4 man with his two cars

On his return to civilian life, after being released from the hospital, he found that Clyde Rohrer had built a car for him from parts donated by various Club members. Willie was then back in the running again.

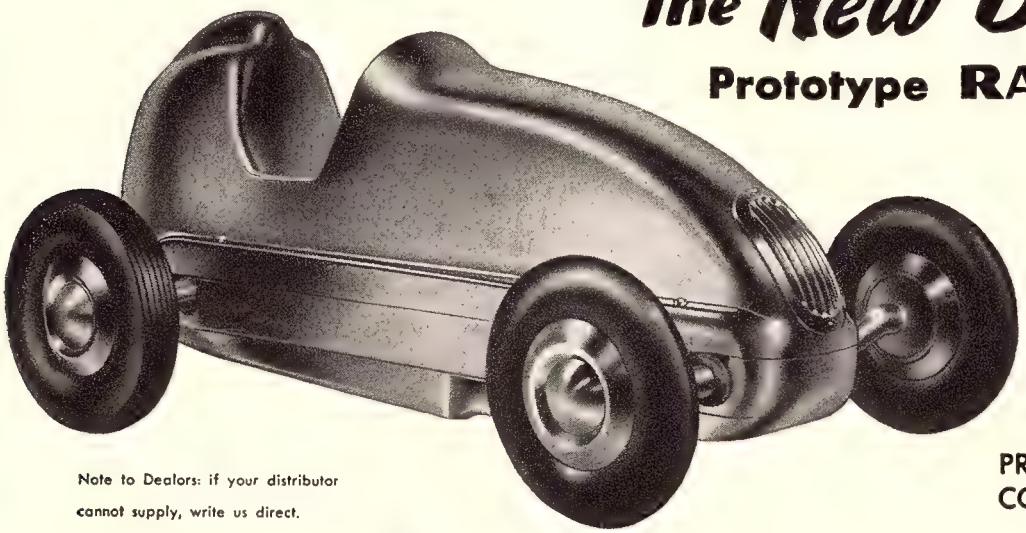
TROMBONE SPECIAL

THIS car, so named because of its frame being formed of a piece of Chrome-Moly steel tubing bent into a U-shape, has been showing great promise on the track. In fact, it actually holds the new speed record for conventional cars on rails at 76.40 MPH. This name seems to supersede the original name of "Rotom" for the originators, Rohrer and Thompson.

One of its chief virtues is the fact that it has an extremely low center of gravity. This is accomplished first, by the lightness of frame and the design putting the frame lower than the axle centers, and secondly, by dropping the driveshaft down at an angle from the rear axle forward. This puts the engine low in the car, with the top of the engine tilted forward, bringing the bottom of the crankcase approximately the same height from the ground as the rim of the flywheel.

This low center of gravity apparently makes the car ride the track with a minimum of whip and vibration, which is conducive to speed. To those readers who have never seen a car run on a rail track, we might say that vibration and shake are violent enough to impose a severe "beating" on the car, and this introduces problems not encountered in cable racing. Batteries must be built into a solid unit, capable of taking a severe hammering, and must be anchored solidly in the car.

The New Dooling Prototype RACE CAR



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Wiring must be secure, with soldered connections reinforced with a short length of rubber hose to prevent the wire being broken by vibration. Fuel tanks should be gravity feed to prevent vibration upsetting the carburetion. Since any car is driven from the energy furnished by the engine, and energy is consumed in vibration or motion, the less vibration the more energy left for driving the car forward. This is the reason why this car can go faster.

There are other features which should contribute to its performance also, not features exclusive with this car, but good all-around engineering.

The rear axle is ball bearing and open axle construction, that is the axle shaft is out in the open from the frame out to the wheel. Previously built cars had the axle housing extend to the wheel, with rail adapter bearings anchored to the housing. It is felt that the stress of the rail bearings cause some distortion of the housing while on the track, thereby imposing a bind on the axle shaft. This possibility is eliminated in this car by the adapters being anchored directly to the frame, leaving the rear axle free of the accompanying stress. This job properly built, is just about minimum weight of all the cars on the track, which further adds to its performance. The entire car requires no castings for construction, but does require considerable welding or brazing.

The frame is formed from 7/16" O.D. by 1/32" wall Chrome-Molybdenum (aircraft) tubing, and the rear axle machined from Dural (24 ST Aluminum) bar stock. The same material is used for the driveshaft housing. The driveshaft is connected to the engine, through a conventional single spring two button clutch. A word of comment on the use of a clutch might be appropriate here, since there is usually many questions as to "why use a clutch!" Primarily, the clutch is one of the most simple and easy to build designs of drive. It is always very convenient in dismantling or assembling the car, since it eliminates screws, nuts, etc. It has a minimum of weight, and since it rotates, eliminates the chance of being out of balance, causing vibration. It is absolutely noiseless in operation and eliminates all back-lash between the engine and rear axle, with the consequent rattle. It is excellent insurance against damaging an engine, when the crankcase gets loaded with fuel, transferring a slug of fuel into the combustion chamber thereby locking the engine. In this case, the clutch will slip, preventing the damage, when an attempt is made to start the car on the roller. Experience has proven that very little trouble is ever experienced with this type of drive.

The front axle is fabricated from Chrome-Moly tubing 1/2" O.D. x 1/16" wall and carries the front rail adapter bearings. The body of this car is balsa, however it could be fabricated from sheet aluminum.

Considerably more will be heard from this design in the near future, there being two more under construction at the present, with one of them near completion. Should there be sufficient interest reflected by requests from readers, it might be possible to furnish a detailed description with illustrations at a later date.

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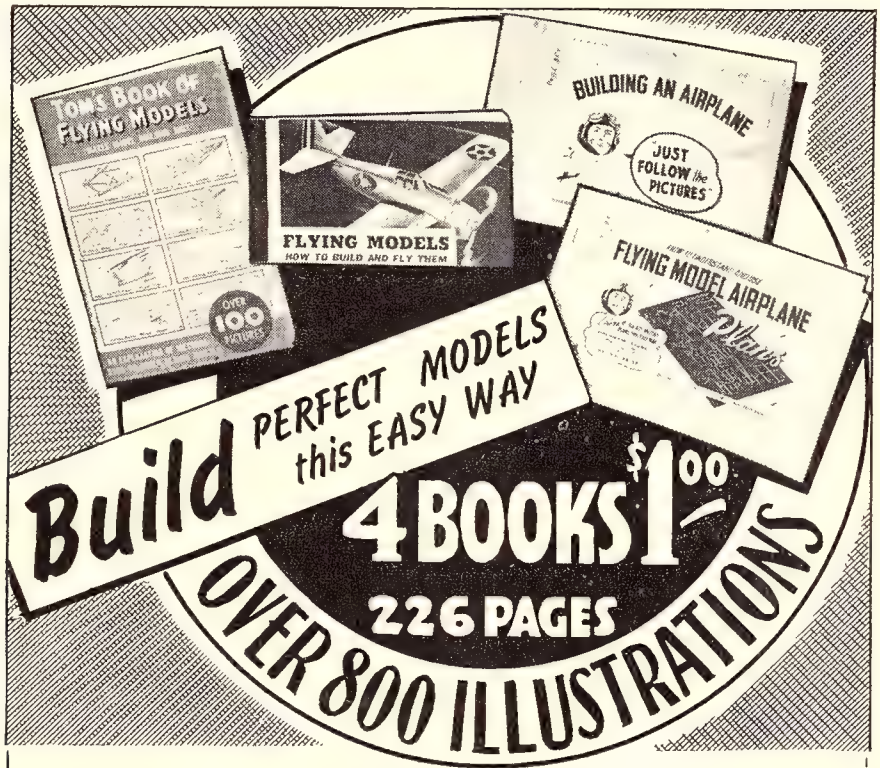

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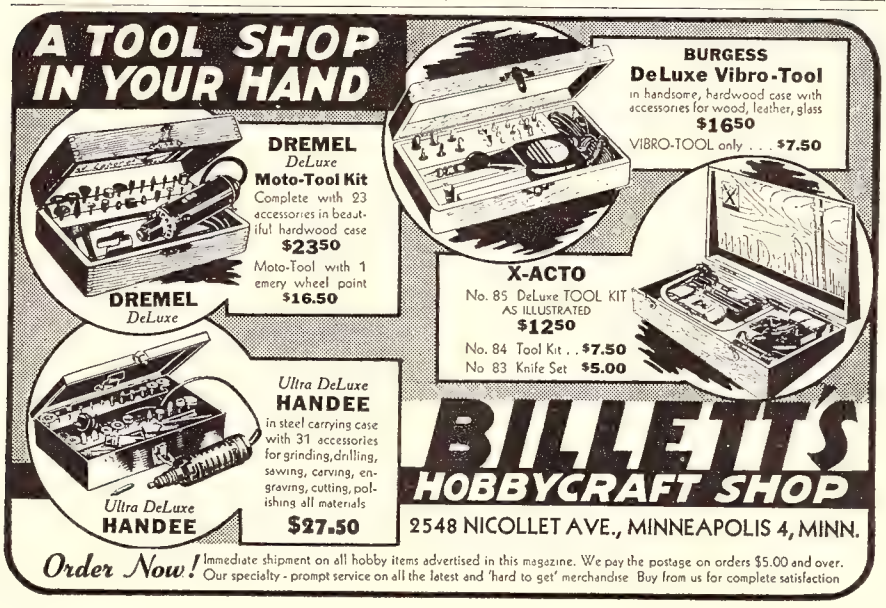
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PHILADELPHIA FLYING CIRCUS

(Continued from page 20)

The contest attracted 78,000 spectators who also had the thrill of witnessing the Navy Air Show. The model contest was stopped for two hours during the day for the Navy to conduct their show. Several airplanes flew by the field and a flight of F4U Corsairs did a nice buzz job on the field.

Contest ended at 5:30 P.M. and after much final recording and tabulation work, the prizes were awarded. There were so many prizes given out, that the final award—an Ercoupe—was presented to the meet champion, Ernie Babcock, Sr. and Jr., at 2:30 A. M. This same Babcock team walked off with roughly $4,000 value in prizes—some haul!

Photo by Messner

Alex Pegon of Norristown, Pa., pictured with his Hall Racer which took first spot in the Beauty Event.

Photo by Messner

Flying wing speed model powered with a McCoy engine. This ship was built by Francis Morrow of Ardmore, Pa.

First Place Winners follow:

Ernest Babcock, Jr.	High Point Winner
A. A. Pegow, Jr.	Beauty
Harold DeBolt	Stunt Control Line
Carol Buress	Stunt Free Flight
S. Sieminski	Control Open Class
Ernest Babcock, Jr.	Control Senior Class
K. Mercer	Control Junior Class
G. Sugiuchi	Control Open Class B
Kent Mercer	Control Junior Class A
Edward Ritter	Free Flight Open Class C
Robert Syvamen	Free Flight Senior Class
Robert Kissner	Free Flight Junior Class
P. R. Slader	Free Flight Open Class B
J. Norris	Free Flight Senior Class B
K. Geer	Free Flight Junior Class B
Ed. Mileski	Free Flight Open Class A

CLEVELAND COUNCIL FORMED

JUST about the biggest event happened recently in the hotbed of model activity with the formation of the Cleveland Council of Model Aeronautics.

Prior to the war, there were a few model clubs in Cleveland, Ohio, making it fairly easy to keep things under control. During the war years however, model building gained ground in leaps and bounds, until recently Cleveland realized they had a large number of independently operated clubs which at times crossed purposes. In addition, their pre-war flying fields were no longer available and control line flying was being frowned upon at the city parks and school yards. In order to coordinate activities, and obtain new flying sites, beside creating new and more interest with better contests, it was decided to combine action of all clubs in this area and thus the council was formed. This group is a council of separate clubs working together for a common purpose and not a *merger* of all clubs into one. Any bona fide model airplane club is eligible and welcome to join from this area.

Temporary officers of the Council are L. Dixon, Collinwood Controliners, Chairman; E. Shapiro, Cleveland Balsa Butchers, Vice-Chairman; T. Bodnar, East Side American Airlines Gas Model Club, Treas.; C. Siesko, Airfoilers, Sec. Directors include the officers and H. Selzer, H. Woods, L. Torno, plus two others yet to be elected. Publicity Chairman is H. McCall.

In addition to these clubs just mentioned, the following clubs were at the organizational meetings: Gas Guzzlers, Prop Pals, Aeroleers, and Cleveland Controliners. John Hillegas, Northern Ohio AMA Contest Director represented the AMA and Mrs. Hillegas and Mrs. McCall the Cleveland Women's Chapter of the NAA.

CLEAR DOPE

(*Continued from page 18*)

"I am convinced that the model aero leaders and contest flyers of America are convinced that they need an organization such as the Academy to lend unity to the hobby-sport and fight against any attempts to kill activity by any one or any group veering away from safety-first regulations or good flying practices. The AMA after all,, is the individual leader and flyer in the field. As long as these enthusiasts support the Academy and its policies and fight any changes which are not for the best interests of the sport, aeromodeling in the United States cannot help but continue on the increase.

"To all the club and contest directors who have assisted in the work of the Academy, and to all the model flyers who have followed its safety regulations, I extend by sincere, personal thanks. To Model Craftsman, a deep bow for instituting this AMA news column at a time when paper was so scarce and space at a premium."

SANTA CLAUS *presents*

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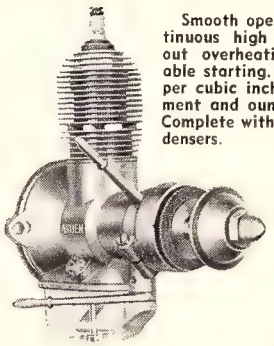

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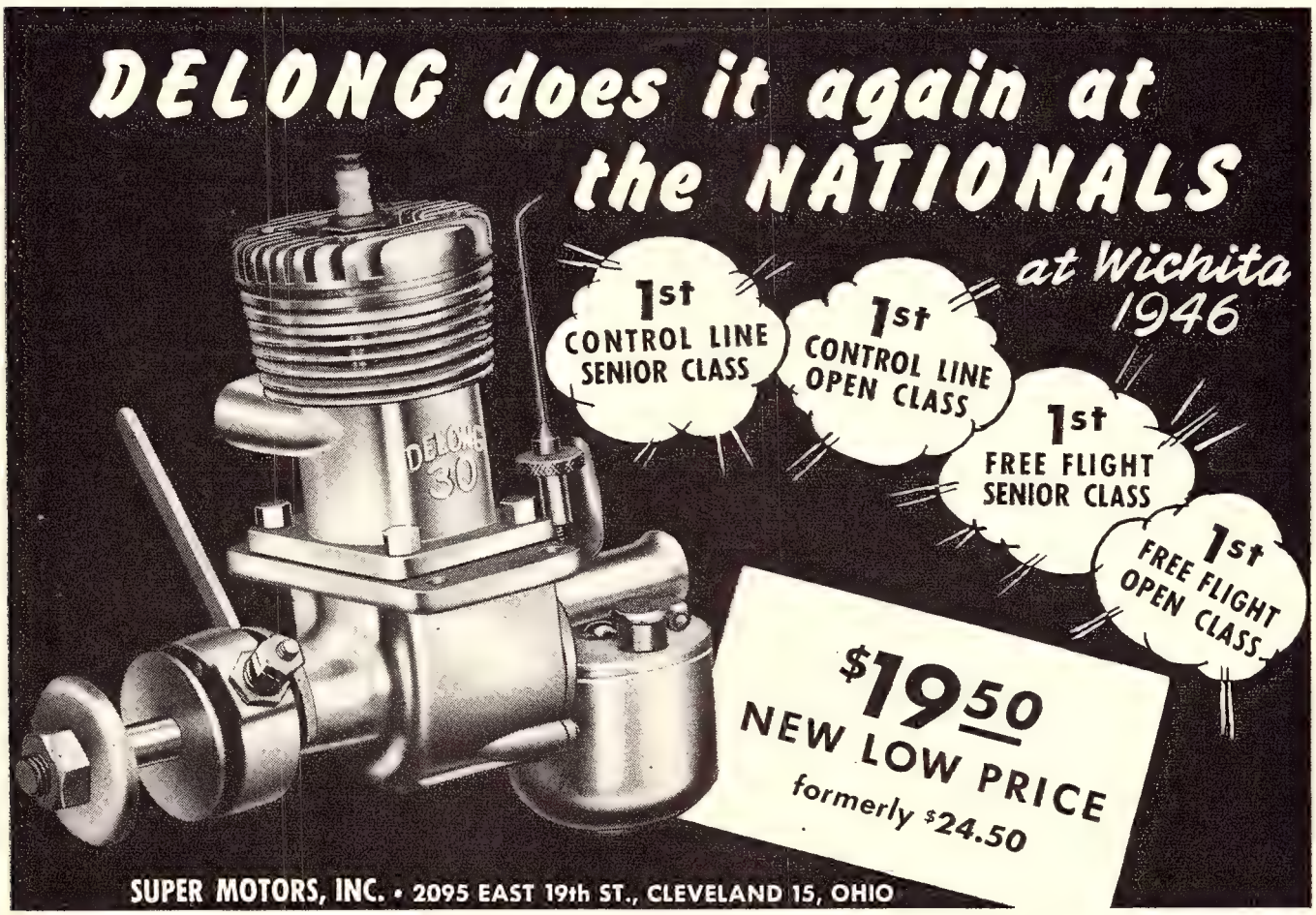
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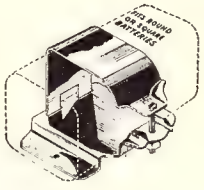

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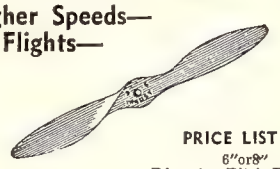

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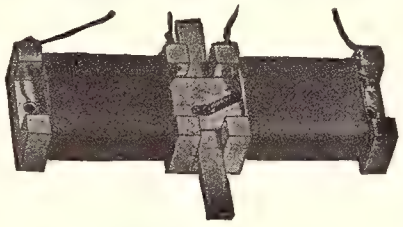

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TINPLATE TRACK

(*Continued from page 32*)

as the one pictured. Three types of track sections were offered to users of the rack-rail systems, ordinary straight and curved, and a gradient rail, also illustrated, which was actually composed of two sections, one piece with a "way-in" bending, and the other with a "way-out" bending. Any number of additional straight or curved rails could be inserted in the center of this gradient rail to extend the height of the climb as desired.

By means of various combinations of these rails, almost any desired use of the rack-rail climb could be incorporated into a model railroad layout, the trains running on the level for any distance and then climbing to a mountain level.

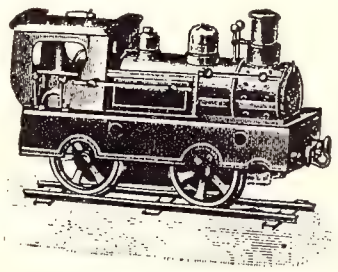
Maerklin seems to have been the chief manufacturer of tinplate rack-rail systems, but Bing produced a somewhat similar system of equal or even greater ingenuity in the form of a working "Scenic Railway" of the type found in amusement parks.

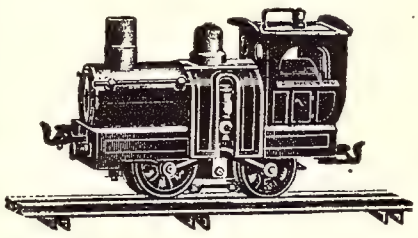
At casual glance, the Bing system might seem rather similar to the Maerklin, but actually it was quite different for it worked exactly as did its prototypes, hauling the cars up to the top of an incline on a moving chain which engaged the car as soon as it reached the bottom of the incline, and releasing it at the top to slide down a long circuit of track under the force of gravity, to the base of the incline once again.

This system was not self-contained, but was designed for operation by means of a separate steam engine or electric motor, and is, in fact, cataloged under the heading of "attachments to be worked by steam engines and electric motors," along with fountains, sand dredges, and similar miniatures.

Somewhat similar to this model are the "Gravity Railways" which enjoyed some measure of popularity in the 1920's. There were several styles of these, featuring spirals of O-gauge wind-up tinplate track on which one or two four-wheel amusement park cars would descend. The cars, however, were lifted to the top of the downgrade by means of an elevator in a tower, operated by a string, which was then lowered to receive the car as it came off the bottom of the spiral once again.

We have never been able to ascertain who made these railways, although we are under the impression that they were of domestic manufacture. We would be very much pleased to hear from any reader who might be able to enlighten us on this one point.



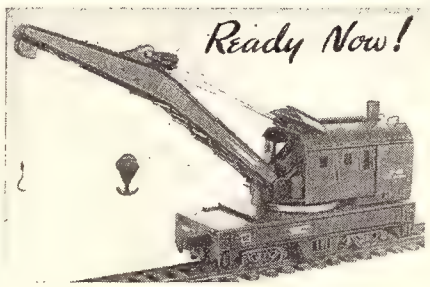


Two Maerklin rack-rail locomotives of about 1910. The model at left is clockwork, the one at the right electrically driven. The latter was an extremely heavy piece of miniature machinery, provided with large oil cups on the armature shaft bearings.

More New Developments

The Electrix people are now working on another product, which will be a novel and long-awaited accessory for tinplate trains, and we will describe it here as soon as it is possible to release the news.

As far as the reconversion of America's pre-war manufacturers to tinplate trains goes, mention should be made that the Hafner Mfg. Co. of Chicago, makers of mechanical trains, also had some sets on the market in time for last Christmas. The present Hafner line consists of a few selected models from the line as made up until the suspension of production in 1942.



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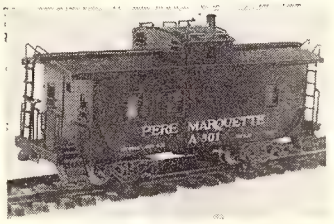

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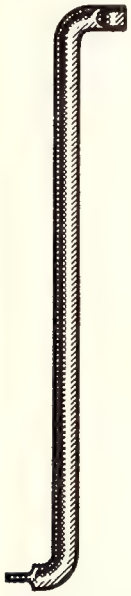
OFFSET SCREWDRIVER

MECHANICAL parts of models, locomotives in particular, abound in areas which are difficult and at times even impossible to get at with the ordinary screwdriver. Excessive disassembly is frequently necessary for access, and often critical adjustment is necessary for reassembly.



In order to ease the situation, this miniature offset screwdriver was designed. It is very small and easily reaches most spots which were previously "blind". The blades are hollow ground, the type traditionally known as the best by expert machinists and mechanics.

Take a four inch piece of ⅛" diameter drill rod and bend the ends 90° to the shaft. They will protrude ¼" below the shaft itself. The screwdriver body is now placed in the vise with soft jaws inserted. The blades are filed on with a rat-tail file or with a grinder, if available. The thickness of the blade at its working end is slightly less than the thickness of a screw slot. Test the finished blade for size in a screw slot.

Note when cutting your blades, that they are at 90° to each other. This makes access to the screw slot possible, regardless of its position. One quarter turn is provided in tight spots, and by constant changing of blades most screws can be removed.

When the screwdriver is finished, it is ready for heat treating. First temper it by heating to a cherry red (1400°-1600° F.). Quench the screwdriver in oil. This requires heating to the hotter end of the desired range. The tool may also be quenched in brine, but this may make it crack. Water is not to be used. In order to see the temper colors, the screwdriver is now polished.

It is reheated to purple (530° F.). The colors, in order of their appearance, will be pale yellow, full yellow, brown and then purple. The screwdriver is now quenched once again.

After polishing, your screwdriver is now ready for years of constant service. *Grattam Cerberus.*

TORRANCE CLUB

(*Continued from page 48*)

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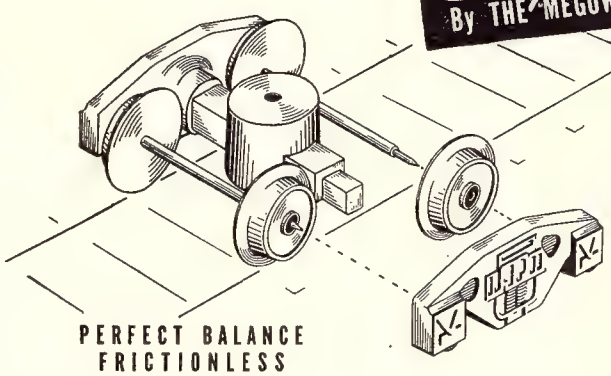

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E. Huntling, Dooling, McCoy	73.11

Note that only two classes of cars are run at Torrance, the Streamline Bevel Gear being practically extinct at this club. As an added attraction at this meet, a two team relay was run, enlivened by Bill Hughes being forced to push his car around the track for five laps when the car failed to go this distance under its own power. Both spectators and contestants got a real kick out of this event.

Prior to their racing on Oct. 6th, a short business meeting was held at which time the club decided to take necessary steps for becoming a sanctioned member club of the AMRCA. It was also decided to run off their club meets under the system used at the Detroit Nationals as outlined to them by Andy Anderson who had attended them. Those of you who are not familiar to this system should be interested in the following: Each contestant draws a number at the time his car is entered. During the meet, numbers are called in rotation, after which cars are given three minutes to be warmed up, placed on the track and called in. If the car is not ready when its number is called, that particular round is lost. Under this system, a man can work on his car until one or two numbers before he is called, thus eliminating the long line of those men waiting for their turn to run.

The Oct. 6th meet was highlighted by the Woodward-Finch Proto turning the quarter at 105.88 MPH, the fastest time any proto has run on the Torrance track. Anderson, running a car set up for him by Howard Lee, turned in a creditable 98.74 MPH. Paradiso led the field in Spur Gear for the second straight month. Results follow:

SPUR GEAR

	MPH
Paradiso, McCoy, Hornet	109.75
Anderson, McCoy, Hornet	109.22

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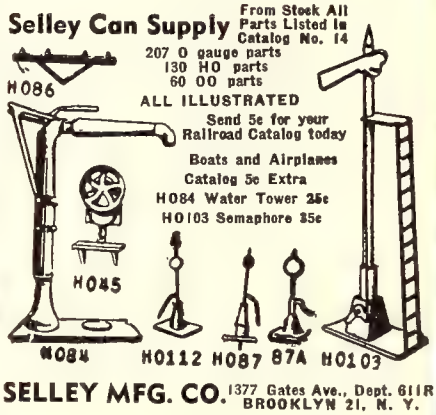

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Shimp, McCoy, McCoy	106.44
Graves, Mathews, Hornet	105.88
Axelson, McCoy, Hornet	104.65
Brown, McCoy, Hornet	103.38
Eggleston, McCoy, McCoy	102.97
Carter, McCoy, McCoy	101.46

PROTO

Woodward—Finch, Own Car, Hornet	105.88
Anderson, Lee, Hornet	98.74
Poore, Dooling, Hornet	96.77
McChesney, Dooling, Hornet	95.13
Oliphant, Dooling, Hornet	94.93
Springer, Dooling, Hornet	91.74

RAILROAD CLUB NEWS

(Continued from page 6)

KIRKWOOD, MO. The Missouri Central Model Railroad Club is now working toward a building all their own. They're already one foot closer to their goal, now having the necessary property for location—possession of their club secretary. The boys have the right idea, starting a fund now to offset future building costs.

ABILENE, KANSAS. The right-of-way of the Kansas Central, Crooked Short Lines and the Smokey Valley Electric has been given up for the time being. Again the axe has fallen—C. G. Sibert, Road Owner, is moving out of state.

OAKLAND, CALIF. The West Coast is poppin' with enthusiasm and blowing off steam. It's happened—first time in NMRA History—the 1947 Convention will go out to the Eastbay Club who really worked hard to get the clear signal! These boys are one of the most active groups of railroad fans in the country and well deserve this distinction. Working like beavers, they prepared a "bang-up" campaign before going to the Detroit Convention, and really had the whole deal closed before even getting there. Jim Munson acted as their representative at the recent convention and both he and his boys came home with the bacon.

FIRST MID-EASTERN REGION CONVENTION

THE first convention of the Mid-Eastern Region of the NMRA was held in Philadelphia on the 12th & 13th of

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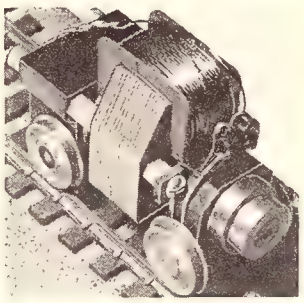
FOR YOUR "S" GAUGE PIKE

Check These

15 OUTSTANDING DESIGN

Features



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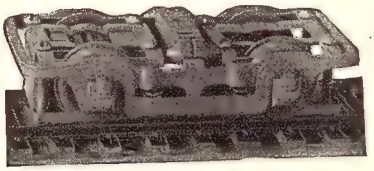

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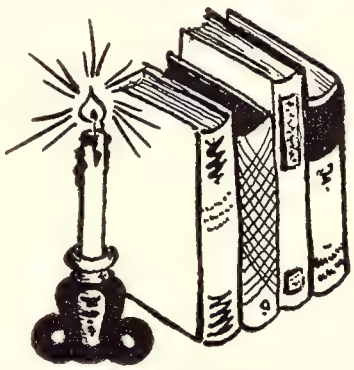

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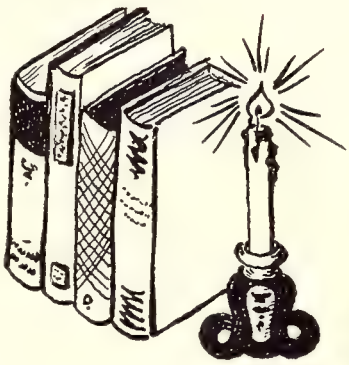
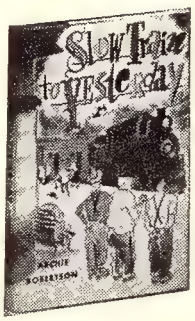


for technical knowledge, historical fact or real entertainment read the cream of model hobby books, listed below.

Don't Miss Them



R18-SLOW TRAIN TO YESTERDAY, by Archie Robertson. Tells in a lively manner the story of Short Line trains which helped build America. Here you'll find romance as well as fact; humor as well as history. Just off the press. Quaintly illustrated. **$3.00**

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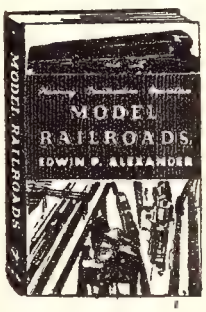

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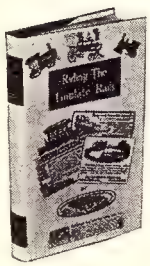

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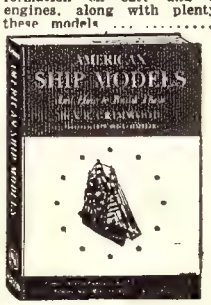

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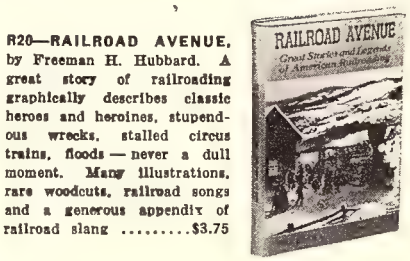

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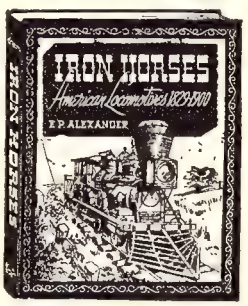

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October with headquarters in the B. & O.'s 24th and Chestnut Streets Station. Some eighty-five NMRA members, representing all sections of the area, were in attendance at the business meeting, Sunday morning.

After receiving encouraging progress reports from the officers and routine business, Reading, Pa., was selected for the Spring meeting and York, Pa., for the Fall Convention in 1947. Officers elected for 1947 are as follows: President—E. P. Holbrook, Phila., Pa.; 1st V. Pres.—J. F. Ziegler, Reading, Pa.; 2nd V. Pres.—R. H. Schraedley, York, Pa.; Secretary—L. G. Mayers, Arlington, Va.; Treasurer—H. I. Mallory, Richmond, Va.

Saturday afternoon and evening were devoted to several small-group trips to observe local railroading, with Sunday seeing the very eventful "Mystery Trip." Those regional members who did not attend missed a real good time and those NMRA members who have not signed up with the regional group should do so at once and avail themselves of the many good things in store for the coming year. If you have not received a membership application, send the secretary a postcard at 702 H Street, N. W., Washington 1, D. C., and one will be forwarded to you promptly.

Oil All Moving Parts of engines and cars. It is very surprising how much friction develops from a few dry bearings. Use thin oil—one that will not gum up and harden. Vaseline proves ideal for hard-to-get-at bearings which you inspect only periodically.

Use Low Amperage Fuses to protect all branch circuits. Don't "bunch" the circuits and try to economize with one large fuse. If available, make use of circuit-breakers to protect transformers or batteries in the event of shorts. Your apparatus has cost you plenty, so protect it!

Bond Track Joints if you want to reduce electrical loss due to high resistance joints. All track junctions should be bonded with pieces of "jumper" wire (copper), soldered to the track. Don't depend on the fish plates to carry the current entirely. They may work loose or have scale on them, causing a current loss.

Sand Commutator and clean brushes regularly. The commutator will sometimes gather grease or oil which should be removed. The brushes should bear firmly against the commutator, if not, the holders should be cleaned and the springs adjusted.

Use Thin Paint on your models. More of them have been spoiled by the use of too thick paint than you can imagine. Use fast drying thin paint, applying several coats if necessary. Sand well between coats. Dull finish paints are best for your models.

Emery Paper used for cleaning tracks tends to tear away particles of the metal from the rail. These particles, if not entirely cleaned up, may develop a partial short-circuit. Artificial ballast should also be kept free from the rails for the same reason.

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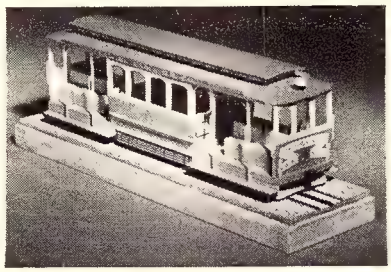

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DRAWINGS and WRITTEN INSTRUCTIONS by MARTIN S. LEWIS (using his original "Step-by-Step" method of construction) available as follows (in Bound Form):
¾" scale, classes 4-6-4 & 4-8-4 . . . . . $3.00
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OO GAUGE

Six Passenger Cars ..... Nov. '44
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Motorized Wrecking Crane ..... Sept. '44

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Cab, Coupler, Drawbar Pocket, Bell, Dome (½" sc.) ..... Apr. '45
Boiler Construction Hints ..... May '45
Assembly & Connections (½" sc.) ..... June '45

TINPLATE & SCALE CONVERSION

Hi-Rail-Cantilever & Steel Arch Bridges ..... July '44
Suspension Bridges ..... Aug. '44
Adding Human Interest to Your Layout ..... Sept. '44
Wherefore "Hi-Rail"? ..... Oct. '44
Flag Stops ..... Nov. '44
Passenger Stations ..... Jan. '45
Books for the "Hi-Railer" ..... Jan. '45
"Combination" Stations ..... Feb. '45
Smooth Scaling ..... Mar. '45
Car Kinks ..... May '45
Tin-Types "Trued to Life" ..... June '45
Along the Tinplate Track ..... Monthly Feature

TROLLEYS

Model Cattle Car (Prototype Dimensions) ..... July '44
Shooting Trouble on HO Motor Trucks ..... Oct. '44
Trolley Wirework ..... Nov. '44
Draw Your Own "Interurban" Plans ..... Dec. '44
Combination Interurban Car ..... Jan. '45
Interurban Depot & Substation ..... Feb. '45
Practical Special Work ..... Mar. '45
Hudson & Manhattan Tube Cars ..... Mar. '45
Interurban Mail ..... Apr. '45
Electric Railway Power House ..... May '45
"Open Air" Elevated Railways ..... June '45

MISCELLANEOUS

6-Inch Naval Gun ..... July '44, Mar., Apr. '45
Amphibian Troop Carrier ..... Aug. '44
Building Model Locomotives ..... Jan., Feb. '45
Useful Car-Building Hints ..... Mar. '45
A Circus Wagon ..... Mar. '45
An Old Fashioned House ..... Apr. '45
Ladder Truck ..... Apr. '45
Annual Index ..... May '45
1946 Annual Index ..... Free on Request

AIRPLANES

Helldiver, SB 20-1 (Prototype Dimensions) ..... July '44
Accipiter VI, Class D ..... July & Aug. '44
"Tornado," Class B Guide-Liner ..... Sept. '44
"Scrappy," A or B Gas Model ..... Oct. '44
A De Luxe Glider ..... Nov. '44
"Elwy," Class C Gas Model ..... Dec. '44, Jan. '45
Dartwin Speedster, Class A, B, C Control-Line ..... Feb. '45
"M-C Special" Guide-Liner ..... Mar. '45
"Squatty" III, rubber-powered Class D ..... Apr. '45
"Speed-Wall," rubber-powered ..... May '45
"Thermite," Class C Glider ..... June '45

ELECTRICAL ARTICLES

Magneto for Boat Engines ..... July '44
Home-Made Telephone ..... July, Aug. '44
Battery Changing Hints ..... Aug. '44
Switch Motors from Doorbells ..... Oct. '44
Polarity Indicator ..... Oct. '44
A. C. Power Supply ..... Nov. '44
Radio Control for Model Layouts ..... Dec. '44
Crossing Gates, Electrically Controlled ..... Dec. '44
Wind Your Own Magnet ..... Dec. '44
Storage Battery Hints ..... Jan. '45
Direct Current Supply Power ..... Apr. '45
Home-Made Rheostats ..... June '45

SHOP WORK

Cutting Irregular Holes ..... Dec. '44
A Wheel Remover ..... Dec. '44
Alcohol Soldering Torch ..... Feb. '45

BOATS

Magneto for Boat Engines ..... July '44
"Misfily," Prize-Winning Model Speed Boat ..... May '45

RACE CARS

Molding Car Bodies ..... July '44
Getting Ready for Racing ..... Mar. '45
Building a Model Race Car ..... May thru Nov. '45
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New line of model railroad paints introduced by Testor Chemical Co.

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ANNOUNCEMENT of the introduction of a new, superior-quality line of Model Railroad Paints is now being made by Testor Chemical Company, Rockford, Illinois, manufacturer of such other nationally known model craft finishing supplies as Testor's Model Airplane Cement, Dope, Sanding Sealer, Gloss Top-Coat, etc.

"These new lacquer-enamels," Nils F. Testor, firm president, stated, "have been specifically developed and tested to meet the demands of model railroad enthusiasts. We spent a great deal of time and effort surveying hobbyists' desires, and found that most craftsmen want a paint that gives a finish in-between dull and glossy. We describe the finish of ours as 'weathered glossy' because of its authentic, 'used' appearance."

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CHICAGO PERSONALITIES

(*Continued from page 46*)

the father of the "much talked about" Palvern car. (Name derived from Pawlikowski-Vernon combination.) This is Frank's own design, a product of his thoughts from a period of years' of racing experience. The ingenious design of crankcase and rear axle gear box as a unit, reflect his ability and determination to hurdle obstacles. This design incorporates what is essentially the Hornet engine, but requires something entirely different in a timing bracket for mounting the ignition points. He has done a commendable engineering job on this, since it allows the replacing of points without dismantling the car, or removing the engine. Frank also worked out the design of the "DP Special" conventional car, in collaboration with Willie Weller.

From all these facts, you can see the Chicago boys consider Frank and Florence as important personages to the club.

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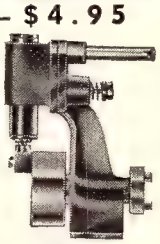

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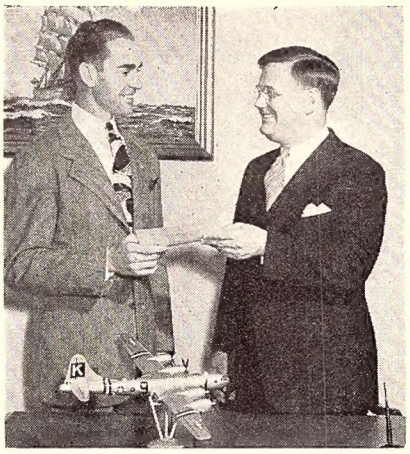

Charles G. Bleitner (left) receives a check for $1,000.00 from Nils Testor, President of Testor Chemical Co., for his prize winning entry in the recent Testor Contest.

TESTOR ANNOUNCES CONTEST WINNERS

IN announcing the winners of Testor Chemical Company's recent $3000 cash award contest for the best finished solid scale model of their B-29 Superfortress, Nils F. Testor, firm president, revealed that first prize winner, Charles G. Bleitner, of St. Louis, Missouri, submitted an exact replica of the 330th Bomb Group Superfortress to which he was assigned during a year's service on Guam as an electrician in the 457th Bomb Squadron.

This entry, according to the judges, proved to be the most outstanding model submitted, and in every detail was a superlative job of craftsmanship. Many of the entrants, including the first prize winner, incorporated props, engines, antennae, and lading gears to add to the authenticity of their model. These additional appendages were not regarded as a basis for determining the prize winners, however, because the prime considerations in judging were finish and workmanship. Jay P. Cleveland, Charles A. Penn and William Winter did a remarkable job of judging all entries fairly and impartially. Second, third and fourth place winners and their awards are: Lt. Francis Schwend, Sacramento, California, $500; L. Johnson, Baltimore, Md., $250; and R. Schnell, Toledo, Ohio, $100.

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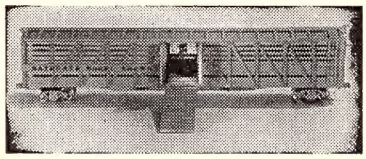

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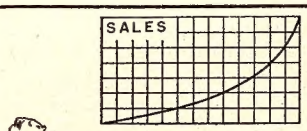

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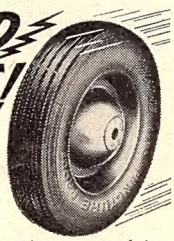

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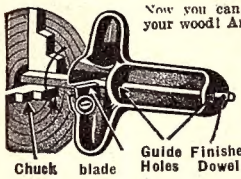

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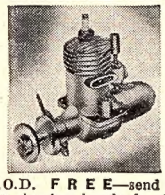

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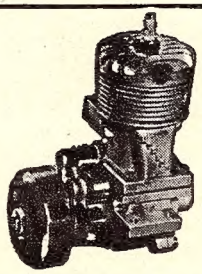

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Meet Mr. Buck from England. His own car #2A, holds the British record at present with nearly 75 MPH. He is shown holding the V-car body, together with components on table, sent him by the Chicago Club.

THANKS, FELLAS!

LATE fall of last year, the Chicago boys very graciously prepared a gift collection of race car parts, including a V-car body, to be sent to a Mr. F. Buck, of England, a race car enthusiast, who had been having a rough time trying to obtain necessary parts to keep up with the sport. Their generosity really paid off for we have just received the following letter:

Dear Editor:

I have enjoyed correspondence with Mr. J. Thompson, of the Chicago Race Car Club, for the last two years, having been put in touch with him through your kindness, and this last Xmas I received a magnificent present from the members of the Chicago Club, comprising a V-car body and many race car components, all of which are unobtainable in this country and highly valued by myself. I have written and thanked those responsible but would you consider printing this photo of myself having received the box of parts as a "sequel" to the one printed on page 37 of MC in Feb.

The spirit of comradeship that lies behind this gift gives me as much pleasure as the articles themselves and is emphasized by the fact that a Californian also sent me a pair of wheels and a sparking plug. I would like to emphasize that these gifts were entirely unasked for by myself and came about by the generosity of the persons concerned. The gentleman in Calif. is Mr. J. E. Stephenson, of Woodland. . . .

I am deeply grateful to all these people. Thanking you for having given me some grand friends in the U. S. A. and for a fine magazine. . . . Sincerely, F. Buck.

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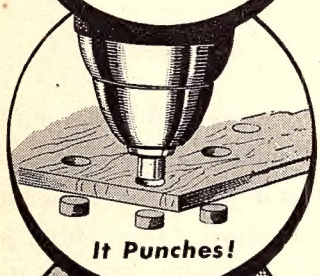

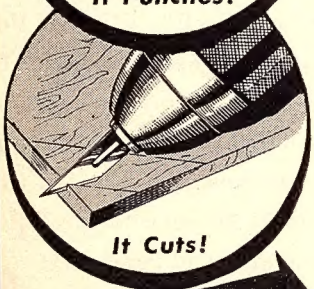

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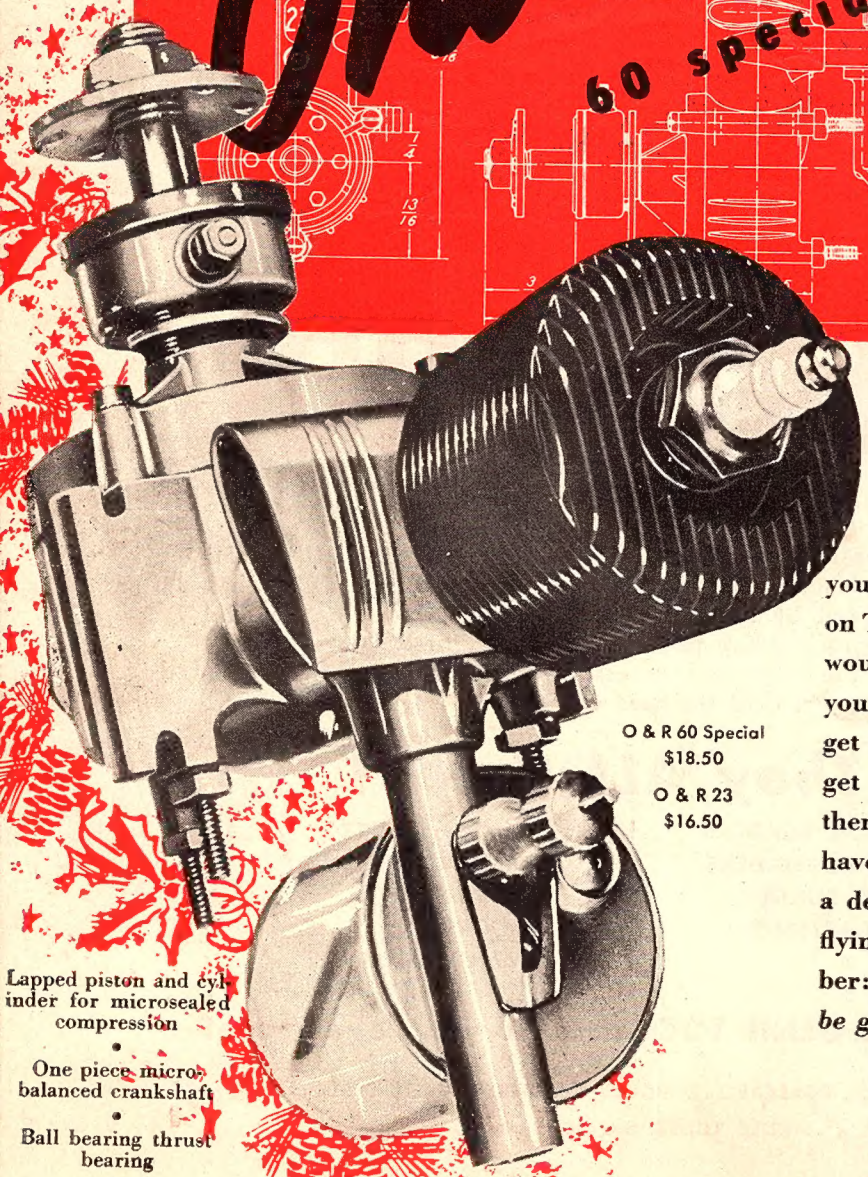

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